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Presentation of the Content

In the first article we present, *Degree of satisfaction of graduates and employers of the Jalpan Academic Unit*, by SOTO-SEVILLA, Sergio, MORADO-HUERTA, Ma. Guadalupe, LÓPEZ-HERNÁNDEZ, Edgardo and RUBIO-MARTÍNEZ, Nelly Diana, with affiliation in the Universidad Tecnológica de San Juan de Río, as following article we present, *Implementation of technology in accounting courses: What do students and professors think?*, by ANDINO, Jenifer, with affiliation in the Universidad de Puerto Rico en Humacao, as the third article we present, *Corporate advertising: impact of investment in photorealistic three-dimensional animated technology (3D-CGI)*, by ACEVEDO, Omar & PÉREZ, Glorimar, with secondment in the Universidad Interamericana and Universidad de Puerto Rico en Humacao, as the last article we present, *The "real" winner (An exploration from experimental economic behavior)*, by GARCÍA, José, with ascription in the Instituto Politécnico Nacional.

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Degree of satisfaction of graduates and employers of the Jalpan Academic Unit

Grado de satisfacción de egresados y empleadores de la Unidad Académica Jalpan

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Abstract

The Technological Universities are subject to the acceptance and/or rejection of graduates in the labor market from updating and/or acceptance of academic programs that are required to upgrade, from studies keep under graduates and satisfaction employers; for it was considered necessary to develop research estimated that yields relevant data in making decisions on the direction of the Academic Unit of Jalpan. Along with the Technological universities, the Academic Unit Jalpan mission is to train professionals associated with high standards of quality perceived by society and specifically for the productive sector. Perform study to determine the degree of satisfaction of graduates and employers Unit, aims to contribute to the institution's goal of "knowing employment status, academic staff and graduates of UTSJR".

Graduates, Employers, Quality, Perception and satisfaction

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Resumen

Las Universidades Tecnológicas están sujetas a la aceptación y/o rechazo de los egresados en el mercado laboral a partir de la actualización y/o aceptación de los programas académicos que se requieren actualizar, a partir de los estudios que mantienen los egresados y la satisfacción de los empleadores; por lo que se consideró necesario desarrollar investigaciones estimadas que arrojen datos relevantes en la toma de decisiones sobre el rumbo de la Unidad Académica de Jalpan. Junto con las universidades Tecnológicas, la Unidad Académica de Jalpan tiene como misión formar profesionistas asociados con altos estándares de calidad percibidos por la sociedad y específicamente para el sector productivo. Realizar el estudio para determinar el grado de satisfacción de los egresados y empleadores de la Unidad, pretende contribuir al objetivo de la institución de "conocer la situación laboral, del personal académico y de los egresados de la UTSJR".

Egresados, Empleadores, Calidad, Percepción y satisfacción

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Introduction

The research focuses mainly on measuring the degree of acceptance of graduate students and employers who hire students after the period of stay, or after the completion of the career of the Technological University of San Juan del Río, in its unit Academic of Jalpan; whose pretensions are to know the opinion of the academic quality regarding what the labor sector demands, such as the needs and demands of the graduate profile that must be developed, and the information that is produced to help the management decision making academic and its programs relevant to the labor sector.

For its understanding, the main variables that guide the study are analyzed, such as the case of the perception that comes from the comparison between the expectations that the client has of the service that he obtains, and the degree of satisfaction that occurs as an effect of the provision. requested and expected.

Another fundamental variable in the provision of academic services refers to the main objective of offering quality educational services, referring in this case to the Quality of the service that aims at customer satisfaction.

On the other hand, emphasis is placed on the situation faced by the university student in Mexico and in the particular case of the student graduated from the sub-system of Technological Universities.

A special emphasis is placed on the follow-up of graduates because it represents the backbone of this study, knowing the acceptance or rejection of the graduates of the Technological Universities, a specific case of the aforementioned unit.

A methodology is described that guides the research process in terms of focus, type of research and scope to follow; In addition to the evaluation that is intended to be measured when obtaining the information from the graduate, versus the one issued by the employer as a result of the services that it offers. A conclusion is drawn from the descriptive exploratory study.

General objective

Know the degree of satisfaction of the graduate and employers of the Technological University of San Juan del Rio Jalpan Academic Unit, through the analysis of the information on the insertion and performance of the graduate in the productive sector, to validate the educational services provided by the institution .

Specific objectives

Obtain the opinion of the graduates on the academic quality they received with respect to the labor needs they have faced in the productive sector.

Know the needs and professional demands of the employer of the graduate of the Jalpan Academic Unit.

Generate reliable information based on the opinion of graduates and employers that facilitates more effective decision-making for management.

Literature review

PerceCustomer choice and expectations of service quality

López points out that in recent years much has been written, and from different perspectives, about the relationship between user satisfaction and the assessment of the quality of services.

For them it is normal that, given the diversity of existing references on these issues, different points of view, definitions and interpretations are given. (Lopez, 2005). Being the point of interest of this project to conceive a clear idea regarding the perception and expectations of the client of the service provided by the entity under study, it is decided to investigate in а particular wav the conceptualization of the subject, to give a solid support to the investigation.

Perceoption

The dictionary of the Spanish Royal Academy defines the concept of perception as "inner sensation resulting from a material impression made on our senses" (Dictionary of the Royal Academy, 2014), it is understood as the process by which a person selects, organizes and interprets stimuli to give meaning to something, a definition that ties in with the contribution of Shepherd, Ahmed, Ramos and Ramos, for whom perception is the process by which an individual chooses, organizes and interprets what he observes, listens to, touches, smells and tests in his quest to confer meaning and order to the world. (Shepherd, 2012)

Regarding the concept of perception of the service for Setó, the perception will depend on its provision, taking into account before, during and after the sale. And that the level of performance that really matters is what the customer subjectively perceives. In other words, "The service relationship could be appropriate according to the company's opinion based on its performance parameters, but not for the client. So the most important thing is the subjective perception that the client has about the service" (Setó, 2004).

While satisfaction and perceived value are related but distinct concepts, effective organizations recognize that even when they are offering the features of a product or service to their customers, what they are really buying are the benefits that those products and services provide. The perception of value is then the point of view that the customer has regarding these benefits, and in terms of satisfaction, it is the feeling of the customer once they make their purchase.

The value perceived by the customer is one of the main elements that guarantee the success of any company, to ensure the growth of the company it is necessary to have loyal customers who spread their satisfaction with the purchase of the service and product as well as increase the perception that the customer has regarding their products, call it continuous improvement.

Expectations

Pubroso defines that "the concept of expectation is closely linked to that of prediction. In this sense, it could be defined as what customers think will happen during the development of an exchange" (Barroso, 1999), this is how the customer generates their expectations through messages that the same company issues either formally or informal, as well as through factors that are not under the control of companies.

For Setó, the quality of the service implies a comparison between the expectations of the client and the perceptions that he has about the service received (Setó, 2004), an analysis that he makes based on the model of Grönroos, Parasuraman, Zeithaml and Berry who define quality. as the difference between customer expectations and their perceptions.

In the analysis that Setó makes with respect to the study by Boulding, Karla, Staelin and Zeithaml, he points out that expectations are not defined solely in subjectivity, but rather are modified. He captures it as a dynamic concept that changes over time, depending on the results of the previous provision of the service, so that every company must worry about increasing the value of its products and / or services.

Customers shape their expectations through a series of factors, Kotler stands out among them; past shopping experiences, advice from friends and colleagues, and company and competitor information and promises; he creates the assumption that if the company raises expectations too high, the customer is likely to be dissatisfied, however, if the company sets expectations too low, it will fail to attract enough customers. The key to having satisfied customers and the company meeting its goals is to raise expectations and deliver products and services that meet them. (Kotler, 2006)

Gosso describes the customer's expectations as the performance characteristics that he expects to receive in the provision of a service, an idea that is formed by means of two dimensions that he names structural and emotional.

The first refers to everything associated with the tangible elements in the service provision process, such as the staff uniform, the cleanliness of the facilities, the facilities themselves, the equipment of the institution, etc. While the second, he has to do with the emotional plane of the client, about how he expects to feel the experience of the service. (Gosso, 2010).

Gosso's analysis of expectations is complemented by Karl Albrech's proposal, which consists of a four-level hierarchical scale for the expectations that a client expects to satisfy in the performance of a service. He defines these levels with the concepts: basic, expected, desired and unexpected.





Regarding the last level, Gosso points out that it is important that every company should try to have hyper-satisfied customers, keeping in mind that recurring surprises lose strength over time and become expectations corresponding to the level expected by the customer, so innovation must be done. constantly on the unexpected attributes included in the service offer.

Satisfaction

According to the Larousse dictionary, the word satisfaction refers to the taste or pleasure that is generated from the fulfillment of a taste or desire. (Larousse)

Satisfaction is a feeling of pleasure or disappointment that results from comparing product experiences with previous benefit expectations. If the results are lower than expectations, the client is dissatisfied and if the results are up to expectations, the client is satisfied, and if they exceed expectations, very satisfied or delighted clients will be obtained.

ISSN-On line: 2531-2995 RINOE[®] All rights reserved. Satisfaction, therefore, contributes to happiness while, on the contrary, dissatisfaction generates suffering.

According to Keith, customer satisfaction appears when a company focuses on service quality, said satisfaction originates perceptible rewards in the company, such as customer loyalty and corporate image. (Keith, 1991)

1For Setó, customer satisfaction is one of the priorities of modern companies, as proof mentioned, the growing interest in conducting studies that allow accurate measurement of the level of satisfaction, which result in reliable data on which decisions can be made. management and produce performance improvements. Said author points out that few researchers have taken on the task of formulating models of cognitive tone to consider the affective nature of satisfaction. One of the most outstanding contributions for Setó is the one formulated by Oliver in 1989, according to which there are five prototypes of satisfaction in which the client makes different positive states of mind that go from joy to surprise.

	1.0
Contento	Mecto primario de aceptación o tolerancia
Placentero	Aumento o realce de una buena experiencia
Alivio	Eliminación de un estado de aberración
Novedad	Algo inesperado produce un efecto primario d excitación
Sorpresa	Electo de deleite que tiene lugar cuando el resultadovo mas haya de las expectativos

Figure 2 Psatisfaction rototypes

The measurement of customer attitudes is becoming an important element in the quality movement.

Because with the knowledge of perceptions, effective commercial decisionmaking increases considerably as long as they are measured reliably. Bob points out that the level of customer satisfaction can be measured systematically through questionnaires developed with scientific methodology, for Bob, customer questionnaires satisfaction are extremely appropriate for those organizations in the service sector as opposed to the manufacturing industry, in which the quality can be evaluated by an objective index, such as size, time, material, etc. (Bob, 2002).

Terry G. from Deming explains that it is necessary to measure the satisfaction of customer expectations through market research and with the results redesign and increase the value of the product and service to make the company grow in success. (G., 2003)

Returning to López for the particular case that the study starts from the student's satisfaction, the author defines the satisfaction experienced by an apprentice as linked to the quality of the training, but not only to the quality perceived during the provision of the training service" (López , 2005).

Quality of service

For Alcalde, quality is something that is implicit in the genes of humanity, considered as the ability to do things well, based on the definition of the ISO 9000 standard that Alcalde takes up, quality should be understood as the degree in which a set of characteristics meets a certain established need or expectation, emphasizes that the survival of organizations depends largely on the degree of satisfaction that is achieved in the client. (Mayor, 2009)

Quality took a big boost after the Second World War, Vargas points out that based on such facts, companies see quality as a competitive factor, so they should go beyond perfect design, stating that quality is not focuses exclusively on the production department but is the responsibility of the entire organization. (Vargas, 2011)

The quality of service is a permanent function that overflows in all aspects of the organization's work. According to Rosander, quality applies to any organization whether it operates for profit or not. Quality encompasses the work of the members including decisions, acts, data, etc., regardless of the level at which they perform their functions, defines quality as a permanent function and it is the customer who ultimately judges whether the attributes of the goods or services are satisfactory and acceptable, for this reason the customer is the center of any quality improvement program. (Rosander, 1992)

ISSN-On line: 2531-2995 RINOE[®] All rights reserved. Based on the judgments of the different authors cited, the main objective of service quality is customer satisfaction, a key factor in the growth and success of modern companies, so it is necessary that it not be considered exclusively as a potential source of advantages. competitive, if not as the need to work in quality for the survival of the company.

The university student in Mexico

According to Oliveras in the note published in the newspaper La Jornada, one of the main problems among young Mexican university students is the high dropout rate of higher education.

According to information from the Organization for Economic Cooperation and Development (OECD), in Mexico only 25 percent of those who attend this level graduate. Scholars of the dropout phenomenon pointed out that this is due, in part, to the fact that the university does not meet the expectations of young people and that many students do not study at the school of their choice. Despite this, the university system does not assume its responsibility and leaves the burden of this failure to the students and their families. Olivares highlights the results of the 2010 National Youth Survey (ENJ) that show that 76 percent of young people between the ages of 12 and 29 say they would like to get a bachelor's degree. However, only 23 percent of those between 18 and 29 years old had studies at that level, which did not necessarily conclude, data provided by Herlinda Suárez,

Of the more than 36 million young people who live in the country (31.23 percent of the total population), 18.75 percent (3 million, 377 thousand 372) is a student in higher education (normal, professional or postgraduate). The ENJ reveals that 15 percent of those who attend this level accept that they study in a school that is not their preference, because they had no other choice.

Suárez added that this measurement shows that 37 percent of undergraduate students in Mexico are not enrolled in the university of their choice. In addition, 13 percent of higher education students say that their studies at that level were below their expectations and 16 percent of those who dropped out say they did so because they were bored.

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Also based on the ENJ, Pérez detailed that 81.5 percent of undergraduate students consider that their career will help them get a job, 76.8 to earn money, 73.5 to solve problems and 71 percent to start a business.

The data add that 63 percent of these young people have worked at some time. Of them, 48.2 percent continue to work during their university studies, 83.9 percent like their current job, and 71.8 percent got their first job with a family member or friend. Despite this last figure, only 9.8 percent of those in professional education consider that one of the most important options to get a job lies in personal contacts, 52 percent say it is through education and 23 through work experience. (Olive groves, 2013)

The graduate of the Technological Universities

One of the relevant objectives of the Technological Universities is to help their graduates have a decent job, however, according to Silva, the graduates of these institutions do not necessarily have access to jobs with the desired quality and conditions, it is common for them to occupy positions such as auxiliaries and assistants and who receive salaries lower than those of the professionals with the lowest salaries. The absence of recognition by the productive sectors of the Figure of Higher University Technician, hinders the alleged "employability" of graduates and limits their working conditions. (Silva, 2008)

According to the General Graduate Exam (EGEL) applied by the Ceneval referred to by Brockmann & González, between 45 and 50% of graduates do not have the basic knowledge of their profession.

So, for companies, the quality of a graduate is practically a bet equivalent to a flip. The foregoing, without a doubt, plays against university students, since a risk-averse employer will think twice before hiring a graduate about whom he does not have enough information; It will require personnel evaluations or, where appropriate, training that represents high costs. (Brockmann, 2014)

Follow-up of graduates

Thehe first experiences around studies for graduates according to Valenti & Varela date back to the eighties, as pioneers in the subject are the Metropolitan Autonomous University, Conalep, the Monterrey Institute of Technology and Higher Studies, the University Autonomous of Nuevo Leon, among others. (Valenti, 2004)

According to Valenti, it is important to distinguish what is meant by graduate follow-up and graduate study. The follow-up of graduates basically is conducting research on the graduates at a moment in time, it refers to the fact that they can be done in a specific period and not be repeated, or carried out sporadically, as far as the study of graduate follow-up consists in longitudinally following the graduates.

PubRadas highlights that knowing the professional performance of graduates and their relationship with the strengths and weaknesses in their training, allows innovating and incorporating this knowledge into the curriculum, as well as formulating training strategies that improve the quality of the university's educational process. (Barreds, 2014)

In order to offer a quality education relevant to the needs of the productive sector, Technological Universities have made efforts from different perspectives, to systematically evaluate the results of the training process of Higher University Technicians. In this regard, graduate studies represent a fundamental tool for the institution to know the level of relationship that study plans and programs have with the professional training provided by the institution. (Mir A. &., 2005)

Methodology

The methodology implemented for this research is based on the statistical methodology for carrying out the study of graduates of technological universities proposed by Mir, the research methodology and the procedure "Tracking Graduates" with which the area of linkage and extension of the UTSJR (Mir A. &., 2005) (Procedure: follow-up of graduates, 2011) (Hernández R. &., 2003)

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(Hernández R. &., 2003), the research is developed with a quantitative approach of descriptive exploratory type, which seeks to project the degree of satisfaction of graduates and employers of the Jalpan Academic Unit, since its purpose is to provide information that helps to evaluate and select a course of action, through the examination and data collection of the variables immersed in the study.

The plan or strategy conceived to obtain the information (Hernández R. &., 2003), is based on a non-experimental research design, because the variables in the study will not be manipulated, but rather, the phenomenon will be observed in its natural environment.

We will work on the analysis of the perception of the graduate and the employer regarding their degree of satisfaction in relation to the service that the Jalpan Academic Unit has provided in terms of the training of students and the needs of the labor market.

According to the statistical methodology for carrying out the study of graduates in the Technological Universities proposed by Mir, the selection of the sample is fundamental due to the magnitude, costs and time involved in carrying out a census in which the information is collected. of all graduates and employers. The data collection is carried out on the population of graduates of the Jalpan Academic Unit, of the Business Development careers, as well as the entrepreneurs who have the student who has completed his studies working in their companies, and has obtained the title of TSU in Business Development, Marketing Area.

The delimitation of the population is carried out taking the last four generations that correspond to the period 2011-2014, a space in which the approximation is sought in terms of the context that the graduate faced in the economic, social and labor aspects in the region, In addition to the fact that the same curriculum was taught, this fragmentation by generation will be called a cohort.

NO.	COHORTE	NÚMERO DE EGRESADOS
1	2009-2011	20
2	2010-2012	26
3	2011-2013	19
4	2012-2014	27
	TOTAL	92

Table 1 Population delimitation

The sample is defined as nonpyroballistic, since it is a "subgroup of the population in which the choice of elements does not depend on probability but on the characteristics of the investigation" (Hernández R. &., 2003), in this case called the study of graduates.

Mir advises Technological Universities to manage a presence greater than 80% in the framework per generation, so that the cohorts should not present a smaller number of surveyed graduates than what is illustrated in the following Table:

NO.	COHORTE	NÚMERO DE EGRESADOS	ENCUESTAS REQUERIDAS
1	2009-2011	20	16
2	2010-2012	26	21
3	2011-2013	19	15
4	2012-2014	27	22
		TOTAL	75

Table 2 Study sample

The instruments developed for the collection of information for the study that seeks to project the degree of satisfaction of graduates and employers, is based on the institutional formats of both the SGI-PVI37 Graduate Monitoring Procedure of the UTSJR, and the questionnaire "Study of Graduates of the Technological Universities" instrument used to know the professional training and employment situation of the graduate, published by the General Coordination of Technological Universities in the year 2005. (Procedure: follow-up of graduates, 2011) (Mir A. &. 2005) Adapting them to information needs and research objectives, two instruments are created, aimed precisely at the two variables under study "graduates - employers, With the previous references, its validation and reliability is ensured for the type of exploratory study in question.

Indicator #1: Survey addressed to the employer of the graduate of the Jalpan Academic Unit UTSJR - with the purpose of knowing the level of satisfaction of the services that the graduates of the Jalpan Academic Unit provide in their company and in this way provide feedback to the institution to effective decisionmaking in corrective measures in the teachinglearning process of the students. Its elaboration results from indicator # 10 of the SGI-PVI37 graduate follow-up procedure and the questionnaire of the Study of Graduates of the Technological University. (Procedure: followup of graduates, 2011) (Mir A. &., 2005)

Indicator #2: Survey aimed at graduates seventh, eighth, ninth and tenth of the generation, with the objective of - Collecting information on the work and school experience of graduates of the Jalpan Academic Unit. Its purpose is to allow the institution to carry out a permanent review process of its study plans and programs that keep them adequate to the demands and requirements of a dynamic and constantly changing labor market. Its elaboration results from the FVI72-SGI format Follow-up of graduates. section Level of Academic Satisfaction and the Study of Graduates of Technological Universities, Professional Training and Employment Situation. (Mir A. &., 2005) (Procedure: follow-up of graduates, 2011)

Prior to the application of the instruments, the first step is to carry out the framework by cohort, taking into consideration that it must be above 80% of contacted graduates, the fields that are required in the registry are; telephone, personal Facebook page, occupation, if they work, name and address of the company and in the case of being students, name of the university, career and semester in which they are studying.

Once prepared, the data required to communicate with the student is subtracted from the framework, as well as the list of companies that turned out to be employers of the graduate and proceed to interview.

For the preparation of the records, the Microsoft Excel program will be used, a spreadsheet that allows the user to create and manipulate data tables and graphs, in which the handled data can be statistically visualized and thus project the results of the variables in study. (Microsoft 2015, 2014)

For the projection of the degree of satisfaction of the employer, the format provided by the linking area of the UTSJR will be used, which uses the study's own formulas.

Results

Indicator #2 shows that the graduate of the last four cohorts in 42% have not started working, among the main reasons they highlight that they are studying a degree or have not found a job with the salary they want, in 19% the graduate of the cohorts is hired in the place where they develop their stay, thus calling the professional practice during the last quarter of the career.

Of the graduates who have started to work, only 37% currently work, the reasons why they have stopped doing so is the continuity of their studies in 60%, contract terms in 20% and the rest I resign because they do not it suited.

The position held by the graduate is 37% operational level employee in production or service, 37% supervisor or technician or specialized worker.

17% as officials in intermediate level management positions and 17% as owners or partners. The salaries received range from \$2,000.00 to \$28,000.00 where 37% correspond to monthly salaries between \$4,000.00 and \$6,000.00 and 52% are between \$2,000.00 and \$3,000.00.

Regarding the relationship between the graduate's training and the work they have performed, 28% consider it very related, 23% related, 14% somewhat related, 26% not very related, and 9% consider that there is no relationship.

The difficulties with the highest incidence that the graduate of the Jalpan Academic Unit UTSJR presents in the workplace are: insufficient preparation in a foreign language, insufficient preparation in specific subjects, general knowledge and insufficient preparation in handling specialized equipment.



Graphic 1 Satisfaction prototypes

The satisfaction level of the graduate is mostly represented between satisfied and satisfied, in terms of technology and / support software, bibliographic and hemerographic collection, the level of satisfaction is between medium and little satisfied.



Graphic 2 Satisfaction levels

Regarding the exceptions that the graduate had when he entered the university, the institution provided him with a service that 10% considered lower than expected, 54% as expected and 36% higher than expected.

Regarding the satisfaction and fulfillment of the student's expectations, 92% of the graduates of the study cohorts would advise studying at the Technological University of San Juan del Río, Jalpan Academic Unit.

Indicator #1 projects a level of satisfaction of the employer of the graduate of 69% very satisfied and 31% satisfied.

Conclusions

The employer of the graduate of the Jalpan Academic Unit determines a degree of satisfaction of the service that is provided that places it according to the prototypes of satisfaction in the degree of surprise, a level that is due to the effect of delight that takes place depending on when the result goes beyond expectations.

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It highlights the need for the graduate to be employed in jobs where their skills and knowledge are put into full practice, as well as the suggestion of permanent links with the productive sector through internships throughout their training, since it is precisely in the labor sector where skills and knowledge are potentiated in the reality of business needs.

Regarding the level of satisfaction of the graduate, the work that the Academic Unit has been carrying out is qualified by the graduate student with a level of satisfaction of a satisfied level, since it has fulfilled in its majority the expectations that were had when entering the university. institution.

As for the comments that the graduate suggests to the Unit, it is the requirement at work and compliance with the activities that are assigned to him, said comment is summarized in that the expectation of the student to define it in quality and satisfaction requires this one of a requirement little flexible that demands and trains the student in responsibility.

It also suggests the pedagogical preparation of the teaching staff so that they impart the knowledge and experience they possess in the best way.

To finish with the analysis of the research and taking up Silva's contribution in his study, the graduate does not access jobs with the desired conditions or salary, however the sector recognizes that the graduate has the skills and knowledge to grow and develop in companies that demand and need the TSU in Business Development.

References

Mayor, P. (2009). Quality. Spain: Auditorium. bars, m. (2014). Yesegument fromandgraduated. IstatwoUnited from A.Mandrich: Xlibris.

Pubroso, C. &. (1999). Relational marketing. Madrid: Esic.

B.ob, E. (2002). How to measure customer satisfaction. Barcelona: Management 2000.

B.rockmann, c. &. (March 01, 2014). Employability and evaluation of higher education in Mexico. Retrieved on March 16, 2015,

fromhttp://estepais.com/site/2014/politicaspublicas-12/

Dictionary of the real academy. (October 2014). Retrieved on March 2, 2015, fromhttp://lema.rae.es/drae/?val=

G., T. (2003). How to measure customer satisfaction according to ISO 9001:2000. FC Publisher. Gosso, F. (2010). Hyper customer satisfaction. Mexico: Panorama.

Hernandez, R. &. (2003). Investigation methodology. Mexico: McGraw-Hill Interamericana.

Keith, D. (1991). Quality in customer service. Spain: Diaz de Santos.

Kotler, P. &. (2006). Marketing direction. Mexico: Pearson.

Therousse. (nd). Retrieved on March 13, 2015, fromhttp://www.larousse.com.mx/

LLopez, J. (2005). Plan training with quality. Madrid: Praxis.

Look. &. (2005). Graduates of technological universities, professional training and employment status. Mexico: General Coordination of Technological Universities, SEP.

Look. &. (2005). Graduates of Technological Universities. Mexico: General coordination of technological universities, SEP.

Olivares, E. (October 7, 2013). In Mexico, only 25% of university students graduate. The Day.

Procedure: monitoring of graduates. (July 15, 2011). Retrieved on February 27, twentyone5,

fromhttp://201.157.19.49/p/jsp/responsi bility_direction/quality/archives/measurement/S GI- PVI37_Seguimiento_egresados_11.pdf

Regulation of Linkage and University Extension. (2008). Mexico.

Rosander, A. (1992). The search for quality in services. Diaz de Santos Editions.

ISSN-On line: 2531-2995 RINOE[®] All rights reserved. Sanchez, V. (2013). Message from Dr. Victor Manuel Sánchez Cabrera. vestigium, 1.

Setó, D. (2004). From service quality to customer loyalty. Madrid: Esic.

Shepherd, C. &. (2012). Innovation Management. Mexico: Pearson.

Silva, M. (January 2008). education magazine His pandriver. Getandnest fromhttp://www.scielo.org.mx/scielo.php?pid= S0185-27602008000100013&script=sci_arttext

Valenti, G. &. (2004). Diagnosis of the current state of graduate studies. Mexico: ANUIES.

Vargas, M. (2011). Quality and service. Bogota: Ecoe.

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Implementation of technology in accounting courses: What do students and professors think?

Implantación de la tecnología a los cursos de Contabilidad: ¿Qué opinan los estudiantes y profesores?

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Abstract

The main objectives of this research were to describe the technological alternatives that can be incorporated in the teaching process ; identify advantages and disadvantages of using technology in Accounting courses; determine whether there is a strategy for the effective implementation of technological alternatives in accounting courses ; and study the views of students and teachers The methodology consisted of a review of recent articles published in refereed journals . A field study where students and teachers participated was also performed. It was found that the alternative technologies that can be used in the educational process are : educational platforms , visual resources as " power point " and projections, audiovisual resources as " podcast " and " videocast ", laptops, tablets and phones. They have the advantage of time flexibility, accessibility, and effective cost.

Technology alternatives, Accounting, Students

Resumen

Los principales objetivos de esta investigación fueron describir las alternativas tecnológicas que pueden ser incorporadas en el proceso de enseñanza; identificar ventajas y desventajas del uso de la tecnología en los cursos de Contabilidad ; determinar si existe una estrategia para la implementación efectiva de alternativas tecnológicas en los cursos de Contabilidad ; y estudiar las opiniones de estudiantes y profesores La metodología consistió en una revisión de artículos recientes publicados en revistas arbitradas . También se realizó un estudio de campo en el que participaron estudiantes y profesores. Se encontró que las tecnologías alternativas que se pueden utilizar en el proceso educativo son: plataformas educativas, recursos visuales como "power point" y proyecciones, recursos audiovisuales como "podcast" y "videocast", ordenadores portátiles, tabletas y teléfonos. Tienen la ventaja de la flexibilidad horaria, la accesibilidad y el coste efectivo.

Alternativas tecnológicas, Contabilidad, Estudiantes

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Introduction

Education is the basis for the development of every professional. Given the constant demand for complete accountants who have the necessary preparation for the working world and its challenges, it is important to highlight the need for technology because the current reality of companies is that they use technology as the main tool to carry out accounting.

Therefore, it is important to direct students to learn and develop skills that incorporate technology into their academic preparation. This will result in students who are better prepared for the profession and to face the demands of the working world.

The following study consists of the scope of education describing and technology in today's world. How do they complement each other to meet the demand for competitive professionals in accounting? What alternatives does technology offer to education to create students capable of excelling in the world of work with their skills? What are the and disadvantages of advantages these alternatives, if used in education? What do students and teachers think about it?

To answer these questions, the following objectives were established: to describe the technological alternatives that can be incorporated into the teaching process; to identify advantages and disadvantages of the use of technology in accounting courses; to determine if there is a strategy for the effective implementation of technological alternatives in accounting courses; and to know the perception of students and professors on the use of technology.

In such a way that problems that may arise can be anticipated and modified in time, thus contributing to the incorporation of technology in the teaching process that benefits students in their academic growth.

The methodology used to carry out this research consists of a literature review of articles published in peer-reviewed journals that include studies on different electronic devices used in education. Similarly, a field study was conducted where two questionnaires were submitted to accounting students and professors of my university campus of origin to know their opinion on the use of technology in accounting courses. In order to determine a viable option for integrating education and technology into the teaching-learning process that would result in a greater benefit for students and professors.

Literature Review

Richardson P., Dellaportas, Perera & Richardson B. discuss how the college student's approach to their academic development is based on their learning style. (2013) Some models that can be found in the literature are: Kolb "s experimental model, Ramsden's model, and the most common model, the VARK model. Kolb "s experiential model is based on a learning cycle that connects four components: abstract conceptualism, concrete experience, active observation, and active experimentation.

Ramsden's model based on a depth versus surface approach to learning, two approaches separated by depth of understanding and conceptions learned. The VARK model is based on the modes of receiving, interpreting and disseminating information, visually, aurally, written and spoken. It attempts to interpret how information is absorbed and the implications it has on the pairing of teaching methods with learning methods. According to research Institute conducted by the Semel for Neuroscience and Human Behavior at the University of Los Angeles California, "stimulations of various types actually change brain structures and affect the way people think" (Hicks, 2011, p.189).

E-learning and m-learning systems facilitate such stimulations to extend academic training. A pedagogical justification for these systems mentioned in the literature is the diffusion of innovations theory, which proposes five conditions for innovation adoption which relative advantages, compatibility, are complexity, observability trialability, and (Nedungadi & Raman, 2012; Annan-Coultas, 2012). Since the learning style leads the learner to a greater or lesser absorption of material depending on the individual's preferred structure for learning. Depending on the preference, it is the approach to be given to learning and the method to be applied.

"E-learning refers to innovations in education where educational materials are distributed using some type of electronic network-based virtual learning space" (Richardson, Dellaportas, Perera & Richardson, 2013, p.6).

The same aims to provide a type of learning equivalent or better than the traditional one (Richardson, Dellaportas, Perera & Richardson, 2013, p.6) in a given space, the computer. Promoting continuous student participation in the academic environment based on electronic learning better known as "elearning".

"M-learning consists of portable wireless technology. It deals with fast access to information from artifacts with the ability to store large amounts of multimedia resources (Richardson, Dellaportas, Perera & Richardson, 2013).

Among the devices are smart phones, mp3 players, iPods, tablets and laptops. It is considered to be a possible complement to elearning as e-learning is more versatile for use anywhere and anytime as long as you have access to the internet. "The justification for "mlearning" is often to increase access and enable new pedagogical methods" (Nedungadi & Raman, 2012, p.660).

"The transition from "e-learning" to "mlearning" has resulted in a change in terminology. For example, 'distance education' has been replaced by 'situated education'" (Nedungadi & Raman, 2012, p.661). Implying that the combination of the two can help the student in distance learning and in the classroom.

With the diversity of devices that can be used for information access, "e-learning" can be supplemented with "m-learning" (Nedungadi & Raman, 2012). Serving as a benefit for teachers when delivering their material to students inside and outside the school environment. Helping the student to develop technological knowledge necessary for the work environment.

Over time it has been proven that technology is an essential part of daily tasks such as learning, work and entertainment. "Along with the rest of the world, the accounting profession is dependent on technology" (Vance, Carlson, Lively & Mastracchio, 2013, p. 13). It is increasingly in demand. However, not everyone has incorporated this tool in the same way. On the one hand, there are different alternatives for applying the same technology and, on the other hand, there is the possibility that it may not be applied at all for fear of change and its consequences. However, we must not forget that a need for innovation has arisen.

"All large, medium and small competitive CPA firms are striving for a paperless environment, where every employee works on computers using software, electronic storage and the Internet" (Vance, Carlson, Lively & Mastracchio, 2013, p. 13).

One of the reasons why aspiring professionals should consider being trained in the use of technology. The learning curve in technology, according to one study, increases every 18 months, which means that knowledge must be kept up to date, since the increase in the use of technology proves to continue to increase over time (Hicks, 2011, p.188).

The idea of improving the courses offered in universities with new technology is becoming more likely, due to the need to be at the forefront of the working world. It is for this reason that universities are beginning to look to the future and its trends to provide students with the best tools for greater competitiveness.

As a result, they must make decisions based on concise information that will provide them with the best option for their students' progress as future professionals. Because it affects educators, learners and the university, several alternatives that provide a better return for all must be evaluated.

Among the technological alternatives available for the educational process is access to educational platforms, based on accounting courses. These can be accessed by students remotely with the intention of reinforcing what they have learned in class. The platforms have instruments that evaluate the constant progress of the students and provide them with the opportunity to develop a study habit.

The purpose is to develop problem solving skills and fast execution. For which provides tools such as consultation to the material, the teacher and forums that allow discussion of problems presented.

Another alternative is one that is generally observed more frequently in current education, the use of projections such as "power points". This tool allows the presentation of educational material by means of ideas, concepts and images in a dynamic and attractive way. This provides a theoretical framework for students in their teaching. Encouraging the student's critical analysis and expanding the development of ideas.

On the other hand, the integration of audiovisual resources is a technological alternative that can be expanded in the teaching process. As well as an alternative called "podcast", for that auditory student, who requires course recordings, the same can be customized by the one who creates them. "It allows the user to download files through an Internet connection to a program that manages them" (Richardson, Dellaportas, Perera & Richardson, 2013, p.8). With the purpose of having them accessible at all times without having to initiate a search. It is the method to have the presentations of the courses available audibly.

There is also the alternative called "videocast" or "vodcast", an option for the visual learner. It facilitates access to videos that can be downloaded easily and free of charge (Pagán, 2011). "Videos can present similar experiences that all students can discuss" (Robinson & Stubberrud, 2012, p.102). Supporting theoretical and practical classroom material.

One instrument that incorporates many technological elements is the laptop. It has a wide variety of programs for daily academic use. It has functions for taking notes, accessing course files in the learning management system, searching for course concepts, communicating via e-mail with professors and students, doing homework and group work, among others (Annan-Coultas, 2012).

It provides the flexibility to move with all available technology to encompass all educational material given inside and outside the classroom. Expanding knowledge beyond the book and the classroom. A lightweight, portable alternative is known as a tablet. "Although electronic tablets offer the user a variety of functions other than reading books, the technology appears to be widely adopted in the classroom" (Martinez-Estrada & Conaway, 2012, p.125).

This has the ability to be used as an "ebook reader" in order to have the texts of the class digitally and not printed. Similarly, the tablet gives you the option of accessing the Internet to use educational platforms, send and receive emails, access RSS (Really Simple Syndication) subscriptions, a tool to receive updated information from portals quickly (Pagán, 2011), among others. Many of these devices have the capacity to create and read files like a laptop.

The cell phone can have the educational application. It is an ideal device to keep updated with the courses. It has applications to record voices and short videos, write messages, take pictures, use tools such as the calculator, access the electronic network, and download programs for any need that may arise, such as the use of a dictionary. Being the most common communication device at the moment, makes it an easy to use one, which allows the implementation of smartphones to mobile education.

Each alternative can benefit the student and the teacher in the teaching-learning process. However, it is up to both parties the performance that they can provide. This is because they have advantages and disadvantages that may or may not be overcome. In order to achieve a good match of technological alternatives to accounting courses, it is necessary to highlight them. Beginning with a summary of what has been found in the literature, the advantages and disadvantages vary from viewer to viewer. What for some represents a benefit, for others is a limitation. One example is the cost of integrating technology into education. Although, "The cost of technology and its acquisition is reducing significantly" (Richardson, Dellaportas, Perera & Richardson, 2013, p.7).

A technological integration represents a large investment of money, however, in the long term the investment would be recovered; turning it into a technological advantage that involves the effective cost.

Due to their multiple uses, mobile devices are a distraction factor which is a disadvantage. However, they can also represent an increase in the motivation to study, since they facilitate access to all types of material at the time the user determines it convenient.

"Academic success in an online environment appears to depend on appropriate motivation and attitudes toward technology..." (Richardson, Dellaportas, Perera & Richardson, 2013, p.7). These devices can help increase or decrease students' academic performance, depending on the type of use they are put to.

The user faces the risk of becoming dependent on technology. This is because technology provides them with a wide flexibility, through access to all its possible uses at any place and at any time. For example, when starting the process of self-learning, looking for the solution of problems on the Internet or consulting with peers on the network for them to give the solution causes the student to stop doing the exercise or problem on their own and then verify it. This is a disadvantage because it deprives the student of the opportunity to develop critical thinking.

Although not everyone shares the same opinion, they argue that interaction is reduced because attention is directed to the digital world and not to the traditional person-to-person world.

"Integrating technology into the classroom allows teachers the benefit of connecting with students digitally by providing rich learning experiences that students can relate to" (Hicks, 2011, p.189). Which in turn increases student interaction because it engages the student's attention in a developmentally stimulating way making them more receptive.

Some disadvantages shown in a study on the use of technology, particularly the laptop, are related to technical problems (Annn-Coutlas, 2012). These include loss of connectivity during educational work and exams, difficulty in downloading documents, problems with program compatibility and program management, among others. Users are not trained for all mishaps resulting from the functionality of technology and its manipulation. The student's preference for a higher level of learning lies in the expansion of methods to deliver information. The use of technological devices serves this purpose by promoting a high level of absorption of academic material.

Methodology

This research is based on a descriptive nonexperimental design. The population of participants for this study is composed of accounting students and professors at my university campus.

There are a total of 353 students pursuing their baccalaureate degree with a major concentration in accounting and nine (9) professors teaching accounting courses. A sample of 122 students and five (5) professors was selected.

The sample of students equals 35% of the population and the sample of professors equals 56%. Both samples were selected informally and at convenience. A questionnaire was administered to them personally to know their opinion about the use of technology in accounting courses.

The measurement instrument used to collect the information necessary to fulfill the purpose of this research was the questionnaire. The questionnaire presents questions aimed at knowing the perception of students and professors about the use of technology in accounting courses.

Students were given a questionnaire containing five closed questions, five hybrid questions and one open question. These questions were directed to the student's profile; the frequency and importance for the student of the use of technology; the opinion on the implementation and disposition to technological alternatives; the advantages and disadvantages they have experienced in the use of technological alternatives; to know the strategies and possibilities for the integration and implementation of technology in teaching; and the determination of the courses the student has taken that give them the basis for expressing their opinion.

Similarly, a questionnaire was administered to teachers with three closed questions, eight hybrid questions and two open questions.

These are focused on establishing a profile of the professor; their willingness to contribute to the implementation of technology in accounting courses; the importance and frequency they give to the use of technology in teaching; the technological alternatives allowed and encouraged by them; the advantages and disadvantages they have experienced in the use of technology; the strategies they suggest for the use of technology; the strategies they suggest for the implementation of technology in accounting courses; the importance and frequency they give to the use of technology in teaching; the strategies they suggest for the implementation of technology in accounting courses; and the advantages and disadvantages they have experienced in the use of technology; the strategies they suggest for an effective implementation of technology in the teachinglearning process in accounting courses; determine the accounting courses they teach and the technological alternatives they can suggest in addition to the existing ones to arrive at a good strategy.

Results

The data collected in the field study are based on a questionnaire to accounting students with a sample of 122 students (see appendix, graph I, p. 19). Of these, 30.33% are in their fifth year and above, 34.43% in their fourth year, 25.40% in their third year, and 9.84% in their second year.

Among the questions asked of the students, they were asked to write down which accounting courses they had taken in order to know on which courses they based their answers to the other questions. 100% of the participants had taken at least the basic course.

Most had taken Intermediate Accounting I (84.43%) and II (68.85%) and Cost Accounting (59.84%). Some had taken other courses (see appendix, graph X, p. 20).

Based on their experience in the accounting courses taken, it was determined how frequently they use technology for the learning process. 45.08% indicated almost always, 27.05% always, 27.05% almost never and .82% never (see appendix, graph II, p. 19).

The students were asked how important the use of technology is for the teaching-learning process in accounting courses. Some 53.28% responded that they consider it important, 40.16% consider it very important and for 6.56% it is not very important (see appendix, graph III, p. 19).

Students were asked to identify the technological alternatives they use the most in the learning process of the accounting course. The three alternatives that obtained the highest frequency were: visual resources such as "power point" and projections with 85.25%, laptops with 75.41% and tablets with 53.28%, in the option of others the computer was mentioned (see appendix, graph VII, page 20).

They were also asked to identify the advantages and disadvantages they attribute to these alternatives. Among the main advantages were the following: accessibility to the material 88.52%, time flexibility 69.67% and portability the most 67.21%. Similarly, frequently mentioned disadvantages by students were: the distraction factor (82.79%), technical problems (74.59%)technological dependence and (63.93%). The students identified as а disadvantage that not all the material is in the visual resources used and the lack of feedback (see appendix, graph XI, p. 20).

Students were asked if they find it necessary to implement the use of technology in the teaching of accounting courses. 95.08% answered that technology should be implemented in the teaching process and 4.92% that it should not (see appendix, graph IV, page 19). The technological alternatives that they indicated as their preferred in the teachinglearning process were: visual resources such as "power point" and projections (72.35%), laptops (70.49%),tablets (63.11%), educational platforms (57.38%), audio visual resources 'podcast" and "videocast" (30.33%), cell phones (27.05%), in the option of others, programs used in the work environment were mentioned (see appendix, graph IX, page 20).

After identifying the alternatives to be implemented in the accounting courses, it was determined and identified if there is a strategy for the teaching process that integrates technology effectively.

50.00% answered no, 48.36% answered yes and 1.64% did not answer. Among the most outstanding strategies were: creating and optimizing laboratories for accounting courses; providing tools for students to become familiar with accounting technology programs; and finally, motivating students to use technological resources (see appendix, graph VI, p. 19).

In addition to asking about the existence of a strategy to implement the technology, we sought to know if the student would contribute to the implementation process. A total of 78.69% answered that they are willing to contribute to the implementation process, 19.67% that they are not, and 1.64% did not answer (see appendix, graph V, p. 19).

Meanwhile, 94.26% of the students think that technology will be integrated into accounting courses in a more intense way than it is currently used, while 5.74% said it will not. Among the comments on this last question "Technology equals progress, denying it is backward" (see appendix, graph VIII, p. 20).

The following findings are based on a questionnaire to accounting professors on my campus. A sample of five (5) professors was selected from a total of nine (9) professors who teach accounting courses (see appendix, graph XII, p.21).

A questionnaire was administered to them with the purpose of knowing their perception on the use of technology in the teaching-learning process of accounting courses.

The participating professors occupy the following positions in the Institution: 40% are instructors, 40% are associate professors and 20% are full professors.

In order to find out which accounting courses the professors based their answers to the following questions, they were asked to indicate the courses they offered. These included Basic Accounting I, Basic Accounting II, Intermediate Accounting I, Intermediate Accounting II, and Managerial Accounting, other courses (see appendix, graph XXII, p. 22).

The professors were asked to indicate how important the use of technology is for the teaching-learning process in accounting courses. Eighty percent considered it very important and 20% considered it important (see appendix, graph XIII, p.21).

The frequency of its use for the teachinglearning process was mostly always (80%) and never (20%) (see appendix, graph XIV, p.21).

After asking about the importance and frequency of the use of technology in the teaching-learning process, we sought to identify the technological alternatives that teachers use or allow their students to use in the classroom.

These were: visual resources such as "power point" and projections (100%), laptops (100%), tablets (60%), educational platforms (60%), cell phones (40%) and audiovisual resources such as "podcast" and "videocast" (20%) (see appendix, graph XX, page 22).

Of the technological alternatives they use or allow to be used in the classroom, teachers use or encourage the use outside the classroom for the teaching-learning process of the accounting course the following: laptops (80%), tablets (60%), educational platforms (60%), visual resources such as "power point" and projections (60%), cell phones (20%) and audiovisual resources such as "podcast" and "videocast" (20%) (see appendix, graph XXIII, p. 23).

We sought to know what advantages and disadvantages teachers experience when making use of the technological alternatives identified. The most important advantages were: time flexibility (80%), material accessibility (60%) and cost-effectiveness (60%). On the other hand, the disadvantages highlighted are: technical problems (100%), distraction factor (80%) and technological dependence (60%) (see appendix, graph XXI, p.22).

The professors were asked for their opinion about the implementation of technology in accounting courses. Sixty percent felt that it should be implemented in all courses while the remaining 40% felt that it should be implemented in only some courses. One comment on this question was "Some technology, not 100% of the course" (see appendix, graph XV, page 21).

identifying After technological alternatives to be implemented in the accounting courses, the professors were asked to mention others in addition to the existing ones. To which the professors answered: "Peachtree to all classrooms offering accounting courses"; "Educational platforms related to accounting (e.g. Contributions)"; "Electronic platforms in accounting courses; Video conferences"; "Videos prepared with the topics discussed"; (platform), "Blackboard Collaborate". In addition to suggesting alternatives, they were asked if they would implement technology in accounting courses if they had the opportunity, to which 80% answered yes and 20% did not answer (see appendix, graph XVI, page 21).

In an attempt to find out possible strategies for implementing the use of technology effectively, 60% of the professors answered and mentioned: "Cost and effectiveness analysis must be done"; "Offering courses requirements computer as for accounting courses"; "Those aimed at making sure that the student is grasping the information and material presented"; "Discussion of the material using technology, not to shorten the time but to complement the discussion with students".

The remaining 40% did not answer the question (see Appendix, Figure XVII, p.21). In addition, they were asked if they would be willing to contribute to the learning process, 80% responded that they would contribute, while the remaining 20% responded no (see appendix, graph XVIII, p.22).

Finally, an attempt was made to perceive the professor's opinion on the implementation of other technological alternatives to accounting courses, 80% responded that they do see it being achieved in the near future and 20% do not see it being implemented in the near future (see appendix, graph XIX, p.22).

ISSN-On line: 2531-2995 RINOE[®] All rights reserved. In general terms, students make use of most of the technological alternatives and show support for their implementation in accounting courses. They identify greater advantages in using them and understand that technology equals progress and refusing to use it is a step backward.

They see in the near future that the use of technology will be effectively achieved with the purpose of providing support to the academic environment.

The professors, in spite of showing support for the implementation of technology in the courses, show some resistance, expressing that if it is implemented it should be "Some technology, not 100% of the course", to which others chose not to answer.

They emphasize more the disadvantages when using technological alternatives and understand that students sometimes prefer the development of problem solving on the blackboard at the time of taking the class. Nevertheless, they see that in the future technology will be implemented in accounting courses.

Conclusion and recommendations

The technological alternatives that can be incorporated into Accounting courses are based on a combination of "blended learning" where each alternative can be used inside and outside the classroom to complement the traditional method of education.

These alternatives are: Educational platforms, Visual resources such as "power point" and projections, Audiovisual resources such as "podcast" and "videocast", laptops, tablets and cell phones. The field study reflected that the preferred by students were Educational Platforms, Visual Resources such as "power point" and projections and laptops. Teachers use and support the use of these and showed particular support for the use of laptops for accounting courses.

The advantages derived from the use of technological alternatives include greater accessibility to accounting course material, the opportunity to make portable all resources related to the material given in class, and better time flexibility.

The disadvantages identified when making use of technological alternatives are the distraction factor, technological dependence and technical problems; which are inevitable but can be overcome. These are aspects to be considered in the implementation of technology in accounting courses.

When we talk about the integration of technological alternatives to accounting courses, we want to determine if there are strategies for an effective implementation. To learn about this particular aspect, an approach was made to the perception and position of students and professors.

This led to the conclusion that for this to happen, it is necessary to orient, train, motivate students, professors and reinforce and universities on the implementation of technology in accounting courses. Starting by establishing a plan to create, enable and optimize the universities with the intention of directing them towards the future.

Students and professors are of the opinion that the implementation of technological alternatives will be achieved in the near future. This could be related to the fact that the great majority considers that technology for the teaching-learning process is important and the frequency of its use is almost always. This leads them to be willing to contribute to this vital process of implementing technology in accounting courses.

Given the results found in this study, it is recommended to investigate and create a plan to follow for the implementation of technological alternatives to Accounting courses in order to achieve the desired result of being at the forefront in the working world of Accounting.

References

Annan-Coultas, D. (2012). Laptops as instructional tools: Student perceptions. Tech Trends, 56(5), 34-41. Obtenido de http://dx.doi.org/10.1007/s11528-012-0596-y

Hicks, S. (2011). Technology in today's classroom: Are you a tech-savvy teacher?. Clearing House, 84(5), 188-191. Obtenido de:10.1080/00098655.2011.557406

Martinez-Estrada, P., & Conaway, R.N. (2012) EBooks: The next step in educational innovation. Business Communication Quaterly, 75(2), 125-135. Obtenido de:10.1177/1080569911432628

Nedungadi, P., & Raman, R. (2012). A new approach to personalization: Integrating elearning and m-learning. Educational Technology, Research and Development, 60(4), 659-678. Obtenido de http://dx.doi.org/10.1007/s11423-012-9250-9

Pagan Santana, L. M. (2011). La integracion de las herramientas sociales en el curriculo de la educacion superior en puerto rico: La percepcion de la facultad. (3469753, Universidad del Turabo (Puerto Rico). ProQuest Dissertations and Theses, 152. Obtenido de http://search.proquest.com/docview/893763819 ?accountid=44831. (893763819).

Richardson, P., Dellaportas, S., Perera, L., & Richardson, B. (2013). Students" perceptions on using iPods in accounting education: A mobilelearning experience. Asian Review of Accounting, 21(1), 4-26. Obtenido de http://dx.doi.org/10.1108/13217341311316922

Robinson, S., & Stubberud, H. (2012). Student preferences for educational materials: Old meets new. Academy of Educational Leadership Journal,16, 99-109. Obtenido de http://search.proquest.com/docview/108227804 2?accountid=44831

Vance, C., Carlson, E., Lively, H., & Mastracchio Jr., N. (2013). Embracing Technology in Education. CPA Journal, 83(1), 13-14. Corporate advertising: impact of investment in photorealistic three-dimensional animated technology (3D-CGI)

Publicidad empresarial: impacto de la inversión en tecnología animada tridimensional foto realística (3D-CGI)

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Abstract

In the area of graphic design and advertising in business the importance of designing with high- quality graphic materials will maintain the corporate image and corporate identity in the minds of current and potential consumer. This research is related to the impact of investment in 3D animations in the field of advertising and graphic design. Interviews with expert professionals from advertising agencies in Puerto Rico were evaluated with the use of 3D animation to create television commercials both in Puerto Rico and other countries. A related comparative are illustrated with commercials: M & M's, Orangina, Church's Chicken and Chocolate Cortés; transmitted in different time periods in Puerto Rico and other countries.

Advertising, Business, Investment impact

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Resumen

En el ámbito del diseño gráfico y la publicidad en las empresas, la importancia de diseñar con materiales gráficos de alta calidad mantendrá la imagen corporativa y la identidad empresarial en la mente del consumidor actual y potencial. Esta investigación está relacionada con el impacto de la inversión en animaciones 3D en el campo de la publicidad y el diseño gráfico. Se evaluaron entrevistas con profesionales expertos de agencias de publicidad en Puerto Rico con el uso de la animación 3D para crear comerciales de televisión tanto en Puerto Rico como en otros países. Una comparativa relacionada se ilustra con los comerciales: M & M's, Orangina, Church's Chicken y Chocolate Cortés; transmitidos en diferentes periodos de tiempo en Puerto Rico y otros países.

Publicidad, Empresas, Impacto de inversión

Introduction

In the area of graphic design and business advertising, the importance of designing high quality graphic supports to develop advertising campaigns is emphasized, in order to maintain the image and corporate identity of the company present in the minds of current and potential consumers.

For this reason, commercial brands use the largest amount of budget to develop advertising campaigns to create the need in the consumer for the product, when observing the commercial, opting to buy it by identifying with the message.

Sometimes they are attracted by: the price of the product, the advantages and benefits it offers, and the consumer's convenience in acquiring it. Therefore, it is important for advertising agencies to be efficient in influencing consumer decision making through their strategies. Creatives highlight the product or service in television commercials. Graphic designers achieve the visual effects in motion to capture the viewer's attention.

In commercials it is common to see visual elements in motion, especially the image of the logo and the product for the consumer to identify them. Thousands of people see commercials every day, however, the commercials that stand out the most are those that contain creative details that remain in the consumer's mind and, for that reason, increase sales.

Commercials with 3D technology allow images to have more dynamism [1]. Very little has been discussed about the techniques and advantages of designing with photorealistic three-dimensional (3D) animated technology (CGI) in the field of advertising to create commercial videos in Puerto Rico. There is a perception that 3D animation (CGI) is only done in Hollywood. However, these technologies can be used constantly in advertising.

Commercials with three-dimensional technology is a very demanding discipline and is constantly changing. This is because technology renews the working tools to speed up the process of creating images on the computer.

Graphic designers must keep up with this new technology in order to effectively respond to the growing demand for developing the corporate identity of commercial companies. Commercials with 3D animated technology (CGI) are gaining importance in the advertising industry in countries such as the United States and Europe, where it has become an investment of resources.

Literature review

The presentation of an animated product enhances consumer trust towards the animated brand and increases the likelihood of choosing the product [2]. 3D technology creates a sense of reality that motivates to receive the message conveyed [3].

According to the American Association of Advertising Agencies, the average cost of producing a national television commercial is \$358,000. Visual effects companies, agencies and directors are embracing the image-based philosophy, thanks in part to 3D technology that allows creatives to realize their artistic visions. The commercials look wonderful, they look visually exciting, and digital technology has a lot to do with it [4].

The advantages of CGI should be taken from the film industry and applied to print advertising [3]. In addition, the development of 3D programmatic innovations that are specifically for the print advertising industry. Applying 3D animated technology in these commercials allows the creation of high quality visual effects, thus attracting the viewer's attention. The dynamism created by 3D effects allows adding more details to the visual elements [1].

3D experts claim that these technologies are necessary to enhance corporate image. Mascot characters are created to attract the public's attention and in this way the viewer buys your product. Each character has a unique characteristic and appeals to the market in which it is advertised [5].

Consumers feel a sense of presence when interacting with 3D products [6]. The virtual experience, simulated with 3D advertising, is composed of cognitive and affective activities than 2D marketing messages [7,8].

These psychological and emotional effects are attributed to the interface properties of 3D advertising, as well as the psychological sensation of presence [8]. Product visualization in 3D technology has emerged as a new way of enriching the advertising medium capable of allowing consumers to interact with a virtual product in a manner similar to a physical product [9].

Methodology

This research is qualitative: exploratory and descriptive. For the study, the strategy used was the interview of individuals from advertising agencies in Puerto Rico that make 3D (CGI) commercials, and the observation of commercials (2D and 3D "Computer Generated Imagery" with realism) made by one or different advertising companies for later comparison.

As for the population that answered or participated in the interview, they were advertisers making television commercials in Puerto Rico. The dependent variables were: the field of advertising and the field of graphic design at the corporate level. The independent variable was: three-dimensional (3D) animated technology (CGI).

The primary source of information was provided by www.superpagespr.com of Puerto Rico. A convenience sample of advertisers was selected from this list to be interviewed. This sampling method is defined as a nonprobabilistic sampling (the sample has not been randomly selected) that is selected for its availability to the researcher [10].

The advertisers answered a series of questions aimed at measuring the degree of understanding they have about the techniques and advantages of using 3D (CGI) as well as measuring their degree of satisfaction with this technology. Through these interviews, the impact of three-dimensional technology in the field of advertising to create commercial videos in Puerto Rico was analyzed.

From the population of 216 advertising agencies in Puerto Rico, according to the information provided by www.superpagespr.com, leading 10 representatives of these agencies agreed to participate in the study. These 10 representatives were the sample (convenience, nonprobabilistic) used for this research.

ISSN-On line: 2531-2995 RINOE[®] All rights reserved. As a secondary source of data collection, television commercials shown in Puerto Rico and in other countries of recognized brands were identified for comparison; and the necessary documentation and guidance on the subject was used. The images were obtained, for the most part, through the web page known as www.youtube.com. The two formats that were analyzed were: the traditional form of 2D advertising such as: video captures, composition of graphic elements, composition of 3D objects (CGI) in a 2D scenario and the use of 3D (CGI) with realism.

The use of 2D graphics and 3D technology (CGI) in television commercials was compared. Later on, as an example, the comparison related to the commercials of: M&M's, Orangina, Church's Chicken and Chocolate Cortés; transmitted in different periods of time in Puerto Rico as well as in other countries, is illustrated as an example.

The following was established as a hypothesis of this research: Advertising agencies will invest more in technological resources such as 3D animations (CGI) to create increasingly creative and eye-catching ads. This will have a better impact on the viewer consumer, increasing his or her subsequent preference for the brand and increasing the possibility of choosing the advertised product.

The guiding questions for this research were as follows:

- Will it be cost effective to create commercials with 3D animated technology (CGI)?
- Will 3D (CGI) animations captivate the consumer compared to traditional commercials?
- Why do 3D (CGI) animations attract more attention than 2D video commercials?
- Why don't advertising agencies often create realistic 3D (CGI) animations?
- What elements are necessary to create realistic quality 3D (CGI) commercials?
- Will creating 3D CGI technology alone increase sales for existing brands?

- What tools are needed to create 3D CGI visual effects?
- How long will it take to create a 30-second commercial made entirely in 3D (CGI)?

Findings

The sample participants who agreed to be interviewed were 100% male. Figure 1 shows the ages of the interviewees. Regarding academic preparation, the highest percentage was 20% who indicated having a bachelor's degree in communications, 10% a Bachelor's Degree in Graphic Arts and another 10% a Master's Degree in Digital Graphic Arts.

The rest of the interviewees indicated having different bachelor's and/or master's degrees. For example, in areas such as: Architecture, Anthropology, Science, Business Administration, Economics, Marketing. Figure 2 presents the information on the position they hold in the advertising agencies. Figure 3 shows the length of time in the position and Figure 4 shows the length of time the company has been established in Puerto Rico.





Figure 2 Position held in advertising agency

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Figure 3 Time in the position



Figure 4 Company established in Puerto Rico

Asked in which department he/she works within the company. 20% marked working in the advertising department, 10% in the graphic department, 10% in the graphic and creative department, 10% in the creative department, 10% in the creative department and Production Director, 10% Account Executive, 10% Account Owner and Account Executive, 10% in the Graphic, Creative and Faculty Department.

One of the participants checked all the alternatives. Figure 5 shows how long they have been working with 3D animations (CGI) to achieve the visual effects. Figure 6 reflects whether it is cost effective to create commercials with 3D animated technology (CGI).



Figure 5 Years working with 3D animations

Costo efectivo Crear Comerciales 3D



Figure 6 Cost-effectiveness of creating 3D commercials

The results of the questionnaire showed that 60% of respondents believe that it would be cost-effective to create commercials with 3D animated technology (CGI).

Some of those who indicated in the affirmative accompanied their selection with various opinions. Among these are: "it depends on the client's tastes and the concept of the story", "more creativity", "the filming area would not be needed", "higher production quality", "it depends on the quality desired by the client", "the tool can be complementary for product marketing purposes".

Figure 7 displays whether 3D animations will captivate the consumer and Figure 8 is about whether 3D animated technology would help increase sales of existing brands.



Figure 7 3D Animations (CGI)





🖬 Si 🗖 No 🗖 Depende

Figure 8 3D Animations

ISSN-On line: 2531-2995 RINOE[®] All rights reserved. 90% considered that 3D animations (CGI) could better captivate the consumer compared to traditional commercials.

Among the comments were: "with 3D tools (CGI) you vary the content of the commercial", "it is more attractive", "it will depend on the Target, but generally it will captivate young people more", "3D commercial videos are well done mainly those produced in South America", "3D commercials you can add very nice elements to the concept, integrating the 3D character (CGI) within the filming, interacting with the child, it is innovative", "it creates real effects, allowing to move what is presented as if the person was there, wishing then to acquire it", "3D allows dynamics to the product and is eye-catching, it simulates reality".

On whether 3D animated technology would help increase sales of existing brands, 50% said NO, 40% said YES and 10% said it depends. Among those who said NO, the following were noted: "the increase in sales is due to the history of the brand and not in the way of production", "there is no link, it does not attribute the creative element but depends on the well-developed concept".

Among those who said yes, they said: "Yes, it would help to increase sales because it enhances the brand, offers more information and elements than regular commercials". The person who said it depends said: "It all depends on the message you bring to the market. If the market is children, it is effective to use 3D commercials to attract children to the advertised product".

According to the information gathered from the interviews, currently, most of the advertising agencies interviewed are not producing 3D (CGI) commercials in Puerto Rico but are producing them in other countries.

Advertising agencies are not often creating realistic 3D (CGI) animations because of the budget allocated and because they are not yet open to experiment with 3D (CGI). It seems a contradiction that advertising agencies recognize that they need to invest in 3D CGI resources and computer equipment to better captivate the consumer, but due to the economic factors of their clients' budgets some prefer to continue using live productions.

However, the results of the questionnaire cannot be generalized to advertising agencies, as information could only be collected from 10 agencies.

The most used tools were: 3D Studio Max, Maya and Light Wave 3D. They were asked if with the tools they currently have, if they were able to create TV commercials related to 3D in less time. 50% said yes, 30% said no, 10% said it depends and 10% did not answer the question.

The elements they considered most necessary to create 3D commercials (CGI) of realistic quality were: drawn sketches and global illumination. The programs most used were: After Effects, Premier and Final Cut. Most of the video editors and 3D (CGI) animators interviewed are business owners.

The interviewees expressed that a 30second commercial made with 3D (CGI) technology takes them between 3 weeks to 3 months to create. Most of them expressed that they have all the necessary tools to create 3D (CGI) commercials faster.

Among the objectives of this research was to compare the use of 2D and 3D (CGI) graphic resources in the field of advertising and to explore what is being done in the advertising world related to 3D (CGI) animations to create television commercials both in Puerto Rico and in other countries.

Among the various comparisons made in this research on commercials made in Puerto Rico and in other countries, the following is a comparison related to the commercials of: M&M's, Orangina, Church's Chicken and Chocolate Cortés; transmitted in different periods of time in Puerto Rico and in other countries.



Figure 8 M&M's commercials are characterized by their creative images of chocolate.



Figure 9 Commercial for the product Orangina, made in France.



Figure 10 The composition of the Church "s Chiken character in 3D (CGI) within a 2D scenario



Figure 11 The 1980s" Chocolate Cortés commercial

Discussion, implications and contribution

In the area of graphic design and business advertising, the importance of designing high quality graphic art and corporate identity for commercial brands is emphasized. It is important that when developing advertising campaigns, the content of the campaign allows to maintain the corporate image of the business client in the mind of the current and potential consumer.

Tools such as 3D animations (CGI) can be used to achieve this purpose, since graphic designers, through visual effects in motion, capture the viewer's attention on the logo and the product. The commercials that stand out the most are those that contain creative details that remain in the consumer's mind.

Commercials with 3D animated technology (CGI) are gaining importance within the advertising industry. Renowned brands such as Coca Cola®, M&M "s®, Pillsbury®, Tostitos®, among others are increasingly investing in 3D animated CGI advertising campaigns achieving corporate identity success; substantial profits and increased consumer loyalty.

3D animated technologies (CGI) allow characters to have more freedom of possibilities in interacting with real people in commercials. In addition, the creation of characters is being used to keep the brand alive. Characters can allow to create a better expectation in consumers about the qualities of the product and make each person identify with some 3D (CGI) character. Consumers would be feeling a sense of presence when interacting with 3D (CGI) products.

3D (CGI) animations carry a more compelling message compared to 2D animations. There are psychology studies that show that 3D commercials reach the viewer's subconscious more because of the realistic graphics they expose [11].

3D (CGI) advertising is a means of communication to create an atmosphere of presence and intensity when product information is given. One of the most important parts of advertising is to be able to inform the public about the benefits of the products they advertise, thus creating a visual image to the viewer.

To achieve the simulation of reality, it is required that the 3D animator (CGI) has the necessary experience to create the necessary visual effects on par with the needs of the advertising agency.

Commercial videos made in Puerto Rico are generally achieved using 2D technology. Videos are captured and digital visual effects are added to communicate emotions and thus motivate the viewer to buy the product. In conclusion, when 3D animations (CGI) are used for TV commercials, a lot of creativity is being invested. It is the most imaginative way to express movement and color to retain consumers. It is also found that 3D visuals (CGI) improve viewer perception in commercials aimed at the right market, as expressed by interviewees. It is important to note that according to the interviewees' statements, the use of 3D CGI depends on the particular type of market desired; be it children, youth or adults.

The message to be conveyed will depend on how effectively the necessary elements are applied to the viewer's audience. Comparing 2D and 3D (CGI) commercials, we find that it all depends what message being on is communicated. In the case of commercials for children, creating a 3D (CGI) character of a child makes a good impact. Combining colors and eye-catching shapes for children motivates them to remember the commercial and thus influences them to buy the product later on.

Recommendations

Design itself is linked to visual elements that affect the way commercials are created. In the area of graphic design, it is imperative to learn all the disciplines necessary to meet the demand to create increasingly creative ads.

Based on this exploratory study, we understand that advertising agencies must invest more in technological resources such as 3D animations (CGI) to create increasingly creative and eye-catching ads. The advertising industry needs to become less conformist towards creative advertising through 3D animated technology (CGI).

One of the recommendations is to investigate the impact of 3D animations (CGI) on children's education. In addition to studying how children are influenced to learn with traditional methods of education such as books and explanations versus presenting them with educational 3D animated CGI videos. Whether it is seeing characters in an educational adventure or visuals of dynamic elements.

References

Biocca, F.: Cyborg's dilemma: Progressive embodiment in virtual environments. Journal of Computer Mediated Communication, vol. 3, no.2. Recopilado de http://www. ascusc.org /jcmc/vol3/issue2/biocca2.html (1997).

Biocca, F.: Virtual reality technology: A tutorial. Journal of Communication, vol. 42, no. 4, pp. 23. Recopilado de Communication & Mass Media Complete database (1992).

Bryman, A. & Bell, E.: Business Research Methods. Oxford University Press Inc, New York. pp. 1- 28 (2003).

Daugherty, T., Li, H., & Biocca, F.: Consumer Learning and the Effects of Virtual Experience: Relative to Indirect and Direct Product Experience. Psychology & Marketing, vol. 25, no.7, pp. 568-586 (2008).

Doyle, A.: New Age Ads. Computer Graphics World. Penn Well Publishing Co, pp.1-6 (2003). Fasolo, B.: Animation Attracts: The Attraction Effect in an On-line Shopping Environment. London School of Economics and Political Science, Psychology & Marketing, vol. 23, no. 10, pp. 799-811 (2006).

Li,H., Daugherty, T. & Biocca, F.: Impact 3D advertising on product knowledge, brand attitude purchase intention: The Mediating Role of Presence. The Journal of Advertising, pp. 43-55. Sharpe Inc. (2002, Fall).

Li,H., Daugherty, T. & Biocca, F.: The role of virtual experience in consumer learning. Lawrence Erlbaum Associates, Inc,. vol. 13, no.4, pp. 395–407 (2001, 2003).

Moldstad, F.: All nail the renaissance: artists are reaping the best of both worlds by combining 3D imagery and photography. Computer Graphics World, pp.70-72 (August, 2008).

Moltenbrey, K.: Modern clasics: digital technology breathes new life into nostalgic commercial characters. Computer Graphics World, pp. 28-34 (July, 2002).

Moltenbrey, K.: Spotlight: 2D animation: Line of Comunication. Computer Graphics World, pp. 10-12 (October, 2006).

The "real" winner (An exploration from experimental economic behavior)

El "verdadero" ganador (una exploración a partir del comportamiento económico experimental)

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Abstract

There is a problem in life when a certain number of individuals, have to decide between alternatives available, such as investment projects, products and services or maybe about artistic, intellectual or another technical quality. In those subjective decisions, but especially those from strategic intentions "juries " could have a fundamental impact on the outcome. The problem arises when the decision would maximize or not the value of the company, depending on whether this has been made based taking into consideration the individual or the public interest, for example when it is necessary to filling vacancies, when it is expected to hire the candidate better trained, above the best positioned on subjective preferences. By the participation of rotating juries is possible to identify the existence of strategic and nonstrategic votes.

Investment Projects, Participation, Juries

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Resumen

Hay un problema en la vida cuando un cierto número de individuos, tienen que decidir entre alternativas disponibles, tales como proyectos de inversión, productos y servicios o tal vez sobre cualidades artísticas, intelectuales u otra técnica. En ese caso, las decisiones subjetivas, pero especialmente las de los "jurados" de intenciones estratégicas, podrían tener un impacto fundamental en el resultado. El problema surge cuando la decisión maximizaría o no el valor de la empresa, dependiendo de si ésta se ha tomado teniendo en cuenta el interés individual o el público, por ejemplo, cuando es necesario cubrir vacantes, cuando se espera contratar al candidato mejor formado, por encima del mejor posicionado en base a preferencias subjetivas. Mediante la participación de jurados rotativos es posible identificar la existencia de votos estratégicos y no estratégicos.

Proyectos de Inversión, Participación, Jurados

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Introduction

It is commonly seen in real life a problem when it take place tournaments and wins the participant with gets the bigger number of votes and these come from the decision of a jury.

In this case the problem arise from the need to determine the real winner, that is the best among a group of participants, taking into account all specific skills, instead of only identify the strategic winner from having obtained the highest score of the conquest.

Understanding that the true winner is the one who best represents the economic or social interest of individuals or groups on a particular project, a product or service within a public or private organization, therefore, becomes the best alternative once they have been discarded the subjective preferences for strategic choice.

When the real winner is identified within a company, it could be happening that it's a supporting practice of financial management, under which they are taking actions to maximize its value, also in the field of public property to allocate fiscal resources it could mean that give back benefits to society, but could also have positive impacts over several sectors as in the environment of the marketing competition, sporting or artistic competence such as speech contests, beauty, and cultural poetic declamation, to name a few, especially when participants can win or not based on subjective judgments.

Examples of this abound in real life one that might seem trivial, it is seen in the TV show " Dragons" famous in different latitudes and Japanese origin, where different individuals are faced with the decision of others to access to monetary resources to enable them to develop their investment projects.

The problem is also present when it is necessary to validate the independence of decisions that the "jury" and "committees" take in cases like those mentioned above, and certainly in situations where the public interest is involved. The question is not whether the majority is able to make better decisions that taken individually, as regards (Kirstein, 2006) and the Condorcet Jury Theorem " that these are taken sincerely, but in this study it is take the assumption that individuals can act honestly or not, especially when the benefit of the latter can yield them a higher profit.

The study adds further to the decisions made in a group perspective, prevailing majority system to declare a winner in a contest of different kinds, as with voters in an election, however despite the vote majority in certain circumstances it is necessary to question if the winner is the best alternative according to the purpose for which it is convened.

The problem arises when the decision is made based on individual strategic interests above the group benefit (public goods).

Conditions of experiment

The document was developed in the framework research experiment, of а considering that "an economic experiment aims analyzing a problem in laboratory at conditions" (Brañas, Et al 2011), and of course following the development of this branch of economics that has had a boost from the award of the Nobel Prize for Vernon L. Smith in 2002 "for having established laboratory experiments as a tool in empirical economic analysis, especially in the study of alternative market mechanisms".

It has taken into account that an appropriate experimental design allows to focus research on exactly what are looking to meet (Irlenbush, 2006), reducing exogenous impacts and the problem on the provision of experimental incentives (Rosenboim 2012), further knowledge of the behavior that cannot be invented just in the comfort of an armchair (Harbring, Et al 2010).

The experimental protocol was applied at the National Polytechnic Institute in Mexico City. Participants were students in the second year of the bachelor of Trade Relations. The experiment was applied to 145 students divided into 4 separate groups of 44, 40, 41 and 20 members, respectively.

Within groups each participant was taking any of the following roles such as a "rapporteur ", "investor" or in any of the roles different times, although the investor only on one occasion.

The application took place just days after the start of the school year sessions and participation was voluntary. Participants were asked to prepare a presentation on a business project, as if seeking monetary resources by advertising support the development of a museum or cultural center of their choice, would he where success to achieve substantially increase the number of visitors, for which they could make use of visual materials technology audio, whatever they could have in the institution, that is, they could freely choose those resources that allow them to convince his group mates, that their project might be the best under the tournament scheme, in this case only one winner would receive a payment in kind, which would be obtained during the first evaluation period an additional weighting factor, unlike what is proposed by (Filippin and Guala 2012) where not only a participant receives payment.

The incentive allowed a total of 52 students chose to participate that is, just over 1 in 3. Eventually a list of each group directly was made. The experimental concerned mechanics was simple, they were informed that the winner would be the one who received the most investment in terms of "virtual dollars" (VD). The scale ranged from 0 to 6, meaning that if someone received an equivalent to 0 score receive virtual 0.0 (VD), 1 is the equivalent of investing 1,000 (VD) and so on until 6 which amount to 6,000 (VD). At the time of allocation were made to know that any vote received by any participant up to 6 stay at that amount for purposes of control.

They were also informed to decide to participate as "rapporteur ", they should try to make the presentation as if it will be real investors and as such should take care on details of preparation, hence they have to go as deep as necessary to respond in time questions that could made the "investors". Once completed the presentation, 10 virtual investors went to register their resource allocation in a computer, ranks as they sat thus a total of 52 rounds representing equal number of participants were generated considering all groups.

Students in each group should declare its willingness to invest virtually several times, including also the "rapporteurs", which at the time could do so as "investors" on projects of their competitors.

It is necessary note that to register their investment decision on the virtual computer, each participant could do it independently, and had the opportunity to observe at least a few seconds, the records provided by other investors, although not the total summations, which allowed them make estimates quickly, about how they would behave assignments to the "rapporteurs" in progress.

That is, it was public but limited information. Additionally participants "investors" could communicate.

The proposed virtual investments were completed immediately after each round but also in some cases the question and answer session. According to the original proposal would be winning the participant who obtained the largest amount of resources in other words the highest score, so at the end, 4 winners were identified, one for each group.

After analyzing the results, as expected these showed interesting behaviors.

While the initial purpose was to determine the best project it is also true that once the incentive on the evaluation was set and the situation of public information available on the performance, was expected that participants especially those who are considered most likely to win attempted " vote " or " invest " strategically, whenever they had a chance to do so, in relation to the presentations of other participants, but also considering that all participants could communicate between them and generate preferences or not over other, taking subjective or personal considerations, beyond the projects presented. Moreover, the rational behavior of the participants put them in the dilemma of supporting a good project and consequently affects their self-interest, or vote strategically. Thus the participant who obtained the highest score in each group was called "the strategic winner."

Therefore, and for the purposes of this study that is searching to identify those strategic actions and remove them and only leave those that were directed to show the true value represented by the project, hence the data were analyzed looking to get supported conclusions, to identified the "non-strategic winner" or "the real winner".

Having in to consideration the task around this purpose, it was developed a methodology that could be applied consistently to all observed results, eliminate the "strategic movements" and keep those that were not.

Hence a basic assumption was taken, that "non- strategic intentions" should show a consistent pattern and therefore "strategic" should be identified significantly.

In other words the problem is similar to the one faced by judges in Olympic competition diving (diving rules FINA<2013-2017), where in general terms, the highest and the lowest scores are eliminated.

As discussed below in relation to these conquests, it is possible to detect a uniform pattern in some assessments made by judges between particular individuals; at least that's what appears at the men's final in diving 10 meters global competition held in Barcelona Spain in 2013.

That is, when a competitor had a high evaluation, all the judges seem to agree to assign similar levels with minor variations, the above regardless of the degree of difficulty assigned to diving. This does not allow to draw conclusions about whether a group of judges in competition, could have anticipated a preferences for one or more competitors or blocks of them, which would have to be tested if applying a rotating system where judges could generate a more objective and independent from different latitudes or regions assessment, which would probably give greater certainty about the process of decision making.

However, unlike the process of diving Olympic Games mentioned, at the present experimental conditions it was proposed the use of rotating juries; hence this role was played in this case by the virtual investor which may also be called "electors" as the same time, because ultimately assigned quantified votes which are register on the computer considering the presented projects.

Now, in regard to the present study the rotation of juries "electors" should be a good practice in the public sector entities such as the case of Mexico, where open calls are made to individuals who feel professionally capable, and they could participate in competitions for various jobs. Independently of the selection process it is possible to identify some discretionary steps, which could also have some impact over technical evaluations.

However, evaluations are often conducted by the areas of recruitment, which can lead to the classic agency problem where certain individuals with potential access to inside information could have a better chance to get better ratings.

In this case it could be apply a rotating juries or independent reviewers as is proposed at this study, and not only the scheme presented for evaluation by the judges in competitive diving, because in that case the elimination of high evaluations could leave out a very good candidate without having access to privileged information.

However, reviewing the results of a set of candidates analyzed with the idea of identifying a "strategic winner " and " a real winner " could be solved by applying a methodology of behavior, being consistent identify both propose could and the implementation of a new assessment, this time by another governmental entity where the hypothetically strategic winner together with the non-strategic winner, should show the necessary knowledge to fill the seat.

But even more, in such case if a strategic winner do not show that could became a real or not strategic winner, would give the relevant information to undertake a thorough review of the applied selection practices, considering that as a problem of public goods, taking in to consideration that a strategic candidate could be a good element from the perspective of a one public official, but not for the society in general, which would be waiting that engaged employees are the most qualified.

Returning to the experiment in question taking into account the previous paragraphs, was raised, the possibility of identifying the best project, and then compare the result with the strategic winner.

From results obtained during the 52 rounds, and taking into account that each participant received 10 votes, it was extracted an algorithm that could be used with rotary juries, to identify strategic and non-strategic behavior.

Initial arithmetic media was calculated " \bar{x} "

$$\bar{x} = \frac{\sum_{i=1}^{n} x_i}{n}$$

Based on the above was also obtained the standard deviation "s" from each of the results.

$$s = \sqrt{\frac{\sum_{i=1}^{n} (xi - \bar{x})^2}{n - 1}}$$

 s/\bar{x} Hence the standard deviation was divided by \bar{x} to obtain a percentage relevance indicator.

- It was looking for repeated assignments, for which it was decided only to this point, rounding results considering that some of the participants used feedback with decimal numbers (in order to identify a pattern of behavior), having done this, the first and the second mode were calculated. (To avoid the need for rounding it could be good indicate to participants the use of numbers without decimals). In other words and for practical purposes, are selected numbers that are repeated more times in first and second place. However it should be noted that some data are more than a first mode. As it could be understand later, calculating the mode solves the problem previously commented on the selection of good candidates for a job, when they really are not strategic winners.

In the case of this study, which sought to avoid accidentally removing a good project, how it could have happened, if it had applied the above methodology used in diving rating. At first modes has been possible to calculate considering rounding results, but also because the maximum number of evaluation is 6, which is smaller than the total of investors 10.

Hence s" was added and subtracted to \overline{x} , the same happened with respect the mode \hat{x}_n , in order to calculate upper and lower limits on the observations, Those whosoever data that is below the lower limit or above the upper limit should be considered a strategic allocation.

Obtained, in this case the highest and lowest of the two is taken. Therefore, it is necessary to be cautious at this point and take into consideration that when more than one mode \hat{x}_n is found in a data, for calculation purposes it has to take the bigger and the smaller mode with respect to \bar{x} in order to determine de upper or lower limit as applicable.

Only when there are two modes \hat{x}_1 and \hat{x}_2 , in that one is above \bar{x} and the other bellow, both are taken under separated bases to define the upper and lower limit, and then be compared with \bar{x} and keep the true upper and lower limits as indicated in paragraph above.

 \hat{x}_{n-1} If there is a \hat{x}_n , followed by a second mode-having only one repetition below in comparison to the first \hat{x}_n , but also that this second is bigger than the first \hat{x}_n , the second \hat{x}_{n-1} determines the upper limit and if it is less than the lower limit.

Finally when it has a \hat{x}_{n-1} having only one repetition below in comparison to the first \hat{x}_n , is used to determine upper and lower boundaries so long as this is within the upper or lower range of the first mode \hat{x}_n respect to \overline{x} , and under this assumption the other changes that may arise.

Once the strategic allocations were identified by the methods described above, these are removed from the data set and replaced by a second media \bar{x}_2 . The \bar{x}_2 is obtained by taking into consideration only the non-strategic data. After that the \bar{x}_2 this is multiplied by 10, which is the total of investors (the electors) who have participated, producing a second score, at this stage a "strategic winner" have been obtained, resulting from the initial sum of the original data but also a "real winner" which come from the product of the previous estimation.

In a first approximation applying the previous criteria to data generated from the experimental exercise, was possible to identified strategically behavior, in cases where the standard deviation was equal or higher than 25% with respect to the \bar{x} .

It is worth remembering at this point that a strategic behavior according to the present studio is the one that could be related to other interest different from the purpose of making that the best project wins the contest. To take one example it has been taken a data from votes generated by the experimental group 4 having a result like the following:



Group 4: individual with the number 26

In previous assignments can be identified that 50% of the data are the number 6 under the assumption that the majority number gives the trend or the actual preference of investors, the problem to solve then comes from the way in which could be discarded the strategic data and keep the assessment that expresses the reality of the project. After applying the points outlined in the previous methodology is naturally obtained a standard deviation exceeding the 25%, which confirms that there may be strategic values in the data row.

Then the numbers are rounded:

1 2 3 4 6 3 6 6	66

Group 4: individual with the number 26 with rounded data

Therefore a mode \hat{x}_n is obtained, which is the number "6", and the second mode \hat{x}_{n-1} is the number "3" but is not taken into account because only repeats 2 times, while the initial mode in 5. The second mode would be taken into account if repeated 4 times, in other words one time less in comparison with the first mode, as explained above.

To ensure consistency in the analysis model, the results are successively applied according to the methodological criteria explained above, as follows:

An initial \bar{x} with the results as they appeared for each rapporteur and the "s" were calculated, and of course the mode \hat{x}_n , also identified after having rounded the data, once obtained mode, the original data are left.

The lower and upper limits were obtained through first mode \hat{x}_n and the media \hat{x}_n respectively, as follows being 2.4 and 7.9 respectively. Thereby the data below 2.4 were remove, in this example the numbers 1 and 2, whereas for the upper limit, the result indicates that could only withdraw the votes above 7.9, but, it is know that the scale of the experiment allowed a maximum value of 6, that is, hence must not be removed any number.

Through this exercise was possible to identify two strategic voting, made it very consistent under experimental conditions taking in to consideration that at the time 2 of the investors (electors) had also been rapporteurs and considered potential winners by themselves.

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Results

According to the experimental results to determine the "real winner", is required to develop an algorithmic process, which assumes the elimination of strategic votes through the following actions: Step 1.

To consider if the following condition $s/\bar{x} \ge 1/4$ is present in data, where its application suggests that there is a probability of at least one strategic voting is included $n(x)/\sum_n(x)$, according with the experimental results in the rounds.

In contrast, $s/\bar{x} < 1/4$ could mean that the data series under observation does not include strategic votes, otherwise the judges in a competition, would be voting sincerely and specifically with respect to the experiment in this study explained, would mean that investors in that round would be deciding objectively.

Otherwise, the probability of finding a strategic or not strategic voting could be found from

the following proposition $\frac{n(NE)/n(\sum NE)}{e^{1/2} + x} < 1$ $\Leftrightarrow \frac{1/2}{e^{1/2}} < 1/4$ o bien que $\frac{n(E)/n(\sum E)}{e^{1/2}} > 1$ $\Leftrightarrow e^{1/2} = 1$.

Step 2. The mode \hat{x}_n is obtained from the set n(x). The case of an experimental proposal for a mode must met the following conditions, the first scale assigned to the votes that can be assigned to decide on a particular issue should be lower by at least 1 item. That is, if the observations are for example 10, the maximum scale must be 9 or down, this considering whether the voting process may include decimals.

To make efficient the process, it is suggested use scales from 1 to 10 and if there were higher numbers simplify figures at that level. The second condition is that only for the purpose of calculating a mode, the data set should be rounded to the nearest point, once obtained this or that result, the observations must be returned to the original state, another alternative⁺is to \bar{x} work with \bar{x} numbers without decimals.

ISSN-On line: 2531-2995 RINOE[®] All rights reserved. In situations where it is not possible to participate under laboratory conditions, considering that it is desirable to analyze a set of data derived from real life, and would apply the algorithm, hence it is possible that it may be the case that is not met the first condition, then by necessity the only available indicator comes from the \bar{x} , as is considered later in an example application used. This event may take place generally with a small number of observations, or when the current scale itself prevents repetition of numerical results.

Step 3. A lower and upper limit is determined as a basis for discard the strategic votes. Given the assumption that the non-strategic participants will move within a consistent range from "s" when you have the \bar{x} , as well as when it is possible to identify a mode, a number or a second (n- 1 repeats). The above assumption is based on the fact that an individual, who has decided to issue a sincere vote and act accordingly, could coincide in their action within a range consistent with the other participants, which also act sincerely.

However, the upper and lower limits are taken considering the least of them, from both the \overline{x} (media), and the \widehat{x}_1 (mode), again in both adding or subtracting cases applying "s" as applicable, and taking into account the assumption that an individual who has a sincere action may exercise a vote that could match or at least be close to another, even around the \widehat{x}_1 and not just the \overline{x} .

The basis of the experiment takes into account that some individuals may act subjectively (strategically), the same as if they do to benefit or affect a " rapporteur" and they would do it rationally, searching to impact on the final result, hence the vote could be out of range in comparison with the sincere electors, furthermore the rotary system of judges allows to incorporate the possibility of this kind of votes in addition to those exerted strategically.

Thereupon having
$$\hat{x}_{1}$$

Upper limit $\bar{x} + s < \hat{x}_{1} + s \Rightarrow$
 $\hat{x}_{1} + s$ (5.2)
78

Lower limit $\bar{x} - s < \hat{x}_n - s \Rightarrow$

 $\bar{x} - s$

 $\hat{x}_{1} - s < \bar{x} - s \Rightarrow \qquad (5.3)$ $\hat{x}_{1} - s < \bar{x}_{1} - s \qquad (5.3)$ With $\hat{x}_{1}, \hat{x}_{2}, \dots \hat{x}_{n}$

When inside the date there is found a multimodal result, the higher mode is taken for purposes of calculating the upper limit and the smaller to get the lower limit is taken, replacing the mode shown in the case of a unimodal observation discussed above.

$$\hat{x}_1 < \hat{x}_n \ \hat{x}_n$$

 $\hat{x}_1 > \hat{x}_n {\Rightarrow} \hat{x}_1$

When it has a second mode \hat{x}_{n-1} and that this is higher than the first, when both are located above the \bar{x} , then \hat{x}_{n-1} is taken as basis for the calculation of the upper limit and conversely, when it is below the \bar{x} and the second mode it is smaller than the first, the latter is used to calculate the lower limit, then applying this mode to comparative limits discussed above when only unimodal result be had. However, the second mode is valid for these purposes if it is different from the first mode for the difference of 1 repeat and meets the condition of being in the range of the first mode, thus above or below the media \bar{x} .

 $\begin{array}{cccc} \hat{x}_{n-1} & \hat{x}_{n} \underset{\leftrightarrow}{\leftrightarrow} \hat{x}_{n-1} & \hat{x}_{n} & \Box \Box \hat{x}_{n-1} > \bar{x} \\ (5.5) & & \\ \hat{x}_{n-1} & & \overset{>}{\leftrightarrow} \hat{x}_{n} & \overset{>}{\leftrightarrow} \hat{x}_{n} & < \\ \hat{x}_{n} & \hat{x}_{n-1} & \hat{x}_{n} & \Box \Box \hat{x}_{n-1} & \bar{x} \end{array}$

After applying the algorithm to the 4 experimental groups considering the 52 rounds, the results are summarized in 2 columns A and B, the first corresponds to the observations derived from the strategic action and the second the real winner, and were found the main remarks by each group as follows:

Group 1. The winner A remained its place in B, but also the second place is maintained, while 3rd in A, changed to 5 in B. It is noteworthy that who occupies the 7th place in A, changed to 4 in B. Group 2, The strategic winner in A, passed to the 2^{nd} , in B. The third place in A, becomes the strategic winner in B. It is relevant to put attention to the fact that participants occupying positions 8 and 11 in A, passed to the sites 12 and 14 respectively in B.

Group 3. The winner in A, it is also in B. The second in A, changed to 4^{th} in B. Between the notable changes it could be see a jump of A taking the place 6 to 9 in B.

Group 4. The winner in A, changes to be the 2^{nd} in B, changing his place respectively.

Hence after applying the algorithm it is possible to find that the "strategic winner2 may or not also "real winner". In theory both should be equal if all experimental participants avoid conducting subjective votes and decide to support the best project in qualitative and quantitative terms, above their personal interests.

As seen in the experimental groups 1, 2 and 3, it could be found noticeable jumps between participants when they occupy a place in A, by removing strategic observations and take them to B in their proper place.

The above taken to real life, could have significant implications, given the examples set forth throughout this study. It should be noted that another advantage of the experimental exercises is that could be seen directly both potential strategic winners and the real winners.

Supplementary example

As an example of a practical application of the algorithm it could be consider the following data sets:



16.6

14.6



15.8

18.6

14.0

12.0

15.6

Considering previous set it is applied the procedure in the algorithm base thus the following steps were developed:

Step 1. The corresponding \bar{x} and the "s" were calculated to determine whether $s/\bar{x} \ge 1/4$. Accordingly, in the sets "e" and "f" have not been identified strategic movements, it could be said that the score obtained it represents the "real winner." However, the rest of the sets contain strategic and non-strategic decisions.

Step 2. The data are rounded to identify the existence of one or several modes. According to the above is not possible to determine a mode in the sets "c" and "d", so when calculating lower and upper limits only took as a basis the derived from $\bar{x} - s$ y de $\bar{x} + s$ respectively.

Step 3. The top and bottom limits are then determined from \bar{x} , and when it is also possible as well from \hat{x}_n .

Step 4. Once you have determined the upper and lower limits, following the steps set out in the experiment that gives rise to this study, would have been necessary to calculate the second media and from it get the final scores again.

However, with respect to the above sets the algorithm must be adjusted to the circumstance that the score displayed is individually unlike the experiment under consideration, where each participant could be up to 10 evaluations, in this case it is not necessary to calculate new scores, but directly determine if that individual results are consistent with a strategic and non-strategic behavior.

Thus as can be seen, in this case refers to a competition type tournament, hence would win at each set, the individuals which could had the highest scores, in other words would be the strategic winners. Applying the methodology it could say under a simple analysis that data being off limits should be removed to leave only the nonstrategic votes, as happens in some way with the competitions of diving.

However, this could be as simple, if these sets were not to the result of the tests performed on people who were competing for a vacancy in six different government agencies in Mexico that were obtained randomly.

This might seem trivial, however it is sometimes possible for individuals seeking new employees made the technical evaluation as well, in this case the individual interest may or not prevail over the collective (public goods), also this could be the problem of the relations between work teams (Seigyoung, et al. 2014), or derived production (Fatas, E et al 2011) and consideration of the cost of having to monitor each employee constantly during the workday to act properly, but also the incentives of Prendergast (1999) who stated that "Incentives are the essence of the economy."

While it is possible that the need for recruitment exist, so is that an external interest might prevail over the natural objective in organizations such as the maximization of profits in the case of private companies and public welfare in government.

Taking into consideration the above paragraph, the situation can derive into the following:

1. That if the highest scores were discarded it could keep leaving out or not a candidate with an outstanding technical or professional capacity.

- 2. In order avoid the mistake of eliminating a good candidate, that could take place if the highest scores were removed, which a similar methodology as the one is mentioned above to the competitions of diving. However, it would suggest at least to setting a second assessment of the leading candidate perhaps the first, second and third place or other, depending on the consistency of the results by a completely independent entity. From which the strategic winner could challenge this decision considering the logical impact of this, however, it is also true that under the assumption that it is a qualified person, should be in the best position to confirm its technical skills, otherwise would accept that he is not the real winner.
- 3. The third had to consider the need for a review of the procedures used to perform such tests, by virtue of having several subjective or discretionary steps to evaluate a candidate, as the interviewing stages. In the case of knowledge examinations the objectivity should prevail, unless there were an additional factor (an externality) influencing the process. Because in any case, a good candidate could perhaps respond more or less successfully a test, but surely under reasonable bases and close between the first and second evaluation levels. In this example if the first (the strategic winner) completely collapses in the second examination, could means that he has had access to insider information.
- 4. The fourth suggests that there are preliminary evidence to encourage the pursuit of a thorough analysis, maybe at all government agencies where such assessments take place, which ultimately are related to public goods, because theoretically hire a trained employee is a better decision than not.
- 5. The fifth would infer that if the phenomenon occurs in the public sector, there would be no reason to suppose that does not happen the same way in the private sector, on which the major shareholders of any corporation where such assessments are practiced, would also have the hope to hire the best candidate instead of "strategic winner."

Significantly, this is a preliminary approximation derived from a set of data from a sample, thus expanded research on this field could lead to interesting results.

Also from the observed results, could be considered for a subsequent investigation if the real winners are those who are generally in the second place, or those who are on the step immediately following, where theoretically not reach any awards that is from that place, in that strategic decisions will cease to have an interest. In other words in the place from which could be present the real winner by his own merit.

Another example of application

The results of the competition of diving 10 meters platform men of Barcelona Spain (2013) were taken, before applying the degree of difficulty. The algorithm of this study was then applied and identified that all results showed that $s/\bar{x} < 1/4$, so at the first instance, it could be said that at least individually all participants received a non-strategic voting.

However, unlike the algorithm applied in the exercise of this experimental study, the judges are not rotating, hence, it could not be ruled out, but neither affirms under these assumptions, that there was some strategic voting. In other words, it seems that the ratings given by the judges for each competitor are consistent with each other, although it is not possible to determine if the judges could have defined or previously a strategic winner or not.

In this case, an alternative could be a confirmation that a system of rotating or changing juries shall apply, with different characteristics, as performed in the experiment of this study, which could be identified or not the existence of votes strategic. This leaves open the possibility of a subsequent interesting research.

Conclusions

It is possible to identify strategic and nonstrategic behavior by applying an algorithmic process, extracted from the observation of experimental results; it must comply consistently with each of the criteria established for all given values.

The algorithm assumes that individuals may or not act sincerely, especially when the latter option may be more profitable, taking into account also that through the use of rotating juries, strategic decisions and those that are not will be leaving a record that can be identified and then exploited according to the needs of a correspond case.

It could be tell that a strategic winner is one who manages to get the highest scores in a tournament, which may be beneficial to him personally, but not necessarily to the public interest, hence the need to find a real winner, that would be one that represent the best project or in the field of politics the most qualified candidate if it were a choice for the exercise of public office in the government or syndical administration, perhaps also the employee with greater technical tools, or the artist with the most remarkable qualities, among others.

This may have practical application in the process of making business decisions, either to support an investment project or another, the launch or improvement of a product or service, or perhaps in the workplace, for the recruitment of new employees or for scholarships for students or other funding from public and private resources, or elsewhere to help provide greater certainty in the celebration of sports, educational, artistic and cultural events to name a few, where the subjective decisions of certain groups of individuals take place.In theoretical terms the real winners must match the strategic winners, if voters act all the time sincerely.

Hence, this study opens the possibility into new lines of research in the fields of behavioral economics, management and finance, and certainly in the opening of new experimental laboratories that could contribute to private and public organizations to maximize shareholder value in the first case and the second to make better use of fiscal resources.

It could be interesting to watch later through the application of dynamic software for the identification of both the strategic winner as the real winner in real time process.

References

Brañas, P, Tarrazona, Ivan. "Mercado de trabajo: Incentivos, salaries y contratos", 2011 In: Economia Experimental. Antoni Bosch Publisher UEA (Chapter 1) pp 1-38.

ISSN-On line: 2531-2995 RINOE[®] All rights reserved. BBC, bbc.co.uk, about Dragon's Den 2014.

Fatas, E., Morales, A. (2011) "Mercado de trabajo: Incentivos, salaries y contratos", 2011 In: Economia Experimental. Antoni Bosch Publisher UEA (Chapter 14) pp 263-275.

Fédération Internationale de Natation, "15th FINA World Championships", July 19 – August 4, 2013 - Barcelona (ESP), final results. Fédération Internationale de Natation, "diving rules FINA<2013-2017", August 25, 2013, pp 1-30. Filippin and Guala, "Costless discrimination and unequal achievements", Journal of the Economic

Science Association, September 2013, Volume 16, Issue 3, pp 285-305.

Harbring, C Irlenbusch, B, Sliwka, D, Sutter, M, "The Analysis of Incentives in Firms: An Experimental Approach", The Selten School of Behavioral Economics, 2010, pp 221-241.

Irlendbush, B, "Experimental perspectives on incentives in organisations", Central European Journal of Operations Research February 2006, Volume 14, Issue 1, pp 1-24

Kirstein, R, "The Condorcet Jury-Theorem with two Independent Error-Probabilities", 2006, Center for the Study of Law and Economics, Discussion Paper 2006-03, version (04) of April 2006 pp 14

Prendergast, Canice, "The provision of Incentives in Firms", Journal of Economic Literature, American Economic Association

Rosenboim, M, Shavit, Tal "Whose money is it anyway? Using prepaid incentives in experimental economics to create a natural environment" Experimental Economics , 2012, Volumen 15, Issue 1, pp 145-157

Secretaría de la Función Pública, trabajaen.gob.mx, 2014

Seigyoung, A, Stavroula, S, Bulent, M, and Aypar, U "When and how does sales team conflict affect sales team.

[Title in Times New Roman and Bold No. 14 in English and Spanish]

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Objectives Methodology Contribution

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Introduction

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General explanation of the subject and explain why it is important.

What is your added value with respect to other techniques?

Clearly focus each of its features

Clearly explain the problem to be solved and the central hypothesis.

Explanation of sections Article.

Development of headings and subheadings of the article with subsequent numbers

[Title No.12 in Times New Roman, single spaced and Bold]

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Graphic 1 Title and Source (in italics).

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Figure 1 Title and Source (in italics). Should not be images-everything must be editable.

Modality	Activities of the Value Chain		
Financial	The need for financial resources and		
cooperation	the difficulty in finding financing		
Technological	The rapidity in the development of		
cooperation	the technology and its complexity		
Cooperation in production	The fundamental search for acquiring scale and within-reach economies that permit the reduction of production-associated costs and risks		
Commercial cooperation	Seek the following objectives: reduce costs and risks in the commercialization process, penetrate new markets, complete the gamma of products offered, procure access to distribution channels, etc.		

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$$Y_{ij} = \alpha + \sum_{h=1}^{r} \beta_h X_{hij} + u_j + e_{ij}$$
(1)

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Methodology

Develop give the meaning of the variables in linear writing and important is the comparison of the used criteria.

Results

The results shall be by section of the article.

Annexes

Tables and adequate sources thanks to indicate if they were funded by any institution, University or company.

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Conclusions

Explain clearly the results and possibilities of improvement.

References

Use APA system. Should not be numbered, nor with bullets, however if necessary numbering will be because reference or mention is made somewhere in the Article.

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