Abstract—The purpose of this research is to address the degree of association among intellectual capital dimensions (human capital, structural capital and relational capital). For this reason, a quantitative methodology and a non-experimental design were used. Using Pearson correlation, structural equation modeling and linear regression we tested the study hypotheses. Through a sample of 103 companies from Cajeme, Mexico, a positive and significant association was found among intellectual capital dimensions, whose results provided empirical evidence that human capital can explain to structural capital and relational capital in organizations.

Index Terms—correlation, dimensions, intellectual capital, structural equation modeling.

1 Introduction

New changes are occurring in the world economy [1], which have made that intangible assets being considered as basic elements to generate a competitive advantage for the companies [2-5], where intellectual capital (IC) plays an important role [6-9].
IC is a term used to synthesize and evaluate the resources of the organization whose nature is intangible [10].

Although this view was originated from Penrose’s approximations [11], as well as Machlup [12] and Drucker’s work [13], today, the management of intangible assets is increasingly a necessity. Then, the industrial era is over and was supplanted by the knowledge era [9]. For this reason, managers in this new age must understand that compete with knowledge is the privilege of few [14].

Now, knowledge is the company’s most important resource [4, 15]. Knowledge is an asset and, just as all assets, has to be managed, so whoever finds and controls them, triumphs (Stewart, 1998 [9]). Therefore, the management of intellectual capital is a necessity, because only 20% of the knowledge available to the company is used [8].

This is explained by The Resources-Based View (RBV) proposed by Barney [3], which argues that the intangible assets—as long as they are rare, valuable, inimitable and irreplaceable resources—can give the organization a sustained competitive advantage. In special, within The Knowledge-Based View (KBV) proposed by Grant [4], where knowledge is considered as a central resource, which is managed through intellectual capital [10].

The appearance of IC is considered as a product of the knowledge era [16]. This arose from the need to value companies through a more detailed way, going beyond the visible assets, until consider the relevance of the intangibles that the organization has to compete. It represents the fusion between two positions: management and knowledge measurement [15].

Within the principal antecedents of intellectual capital, is possible to highlight Müller’s work (1779-1829), who wrote about a scientific and mental capital as a set of constructive powers of man, state and society [17]. Another of the pioneers of his study was Lawrence Dicksse, who was the first to mention the concept of intangible in the company in 1896 [18].

However—although its origins are located within the 19th century—, it was until the late 1950s and early 1960s that the study of intangible assets began to become relevant within organizations. Especially in the Penrose’s work [11], where the intangible assets were conceived as generators of value in the organization. On the other hand, Machlup [12] y Drucker [13] argued the economic value of knowledge and, with that, the beginning of the knowledge society.

In that period—especially in 1969—, was when John Kenneth Galbraith called for the first time the intellectual capital as an intellectual action beyond knowledge or pure intellect [19]. However, the study of this variable received more attention until the beginning of the 1990s, with the Skandia model [6], which was the first of different models that have tried to explain this variable.

According to Roos, Roos, Dragonetti, and Edvinsson [15], no model is more important than the other when trying to explain intellectual capital, because of this it is necessary to consider them together. For this reason, within the different theoretical approaches that explain IC is possible to find different models such as Balanced Scorecard (Kaplan and Norton [20], The Skandia Navigator [6], The Technology Broker (Brooking [8]); Western Ontario University Model (Bontis, [7]), Valoración y
It is important to note that these models present their own dimensions to study intellectual capital. For example, Skandia [6] and Edvinsson [22] divide IC in client, financial, human, processes and renovation; Bontis [7], in human, relational and organizational; Brooking [8], in market, human, property and infrastructure; while Stewart [9], in human, technological, structural and client; Edvinsson and Malone (2001) [16], in human, clients, organizational and innovation; CIC [21] in human, organizational, technological, relational, business and social.

From the above, it is possible to observe that within the indicated models there is a certain consensus in the existence of three basic dimensions of intellectual capital: human, structural and relational. However, it is still unclear how is the relationship between these dimensions. For example, within the approximations of Skandia [6], Edvinsson [22] and Edvinsson and Malone [16], the relationship between these capitals is very close. Even, according to Bontis [7] and Ahmad, Naji and Bontis [23], there is a mutual interdependence between these dimensions, which together, have an impact on performance.

Also, according to Edvinsson and Malone [16], and Stewart [9], not only is there a close relationship between the variables, but human capital is the basis for the development of structural and relational capital. For Bontis [24], too, there is a causal relationship between human, relational and organizational capital.

These theoretical postulates show the need for empirical evidence which provides information about the relationship among intellectual capital dimensions. This is why the following research questions are proposed: How are intellectual capital dimensions associated with each other? How does human capital influence on structural capital? and How does human capital influence on relational capital?

To answer the research questions the following hypotheses are proposed:

H1: Intellectual capital dimensions are associated by a significant and positive way.
H2: Human capital has a significant and positive influence on structural capital.
H3: Human capital has a significant and positive influence on relational capital.

2 Intellectual Capital

2.1 Definition of intellectual capital

Intellectual capital may seem like a new approach, but in practice it has existed for years through common sense [22]. This theme has become more attractive for companies seeking to gain benefits through innovation and knowledge [25]. In essence, it is a term used to synthesize and evaluate those organization resources whose nature is intangible [10], which has caused controversy about this variable. Although there is no consensus on a definition fully accepted by the academic community about intellectual capital, different visions have emerged to try to conceptualize this variable.
According to Brooking [8] IC is the combination of intangible assets that belong to the company. Moreover, it is knowledge possession, applied experience, organizational technology, customer relationships and professional skills that give a competitive advantage in the market [16]. It includes information, intellectual property, knowledge and experience [7]; organizational processes, technologies, employee skills, as well as information about customers and supplies [9].

Therefore, IC is a term given to all intangibles, which allows organization management [8]. This can be used to create value, considering relationships with customers and partners, innovation, company infrastructure, and knowledge, as well as employee’s skills and talents [15]; which is configured by everything within the company, in other words, its resources, intangibles processes, patents, customers, as well as tacit and explicit knowledge [26]. Consequently, it involves human, structural and relational capital [7], aspects that are described below.

2.2 Human capital

Human capital (HC) is very important for the organization, because it is a necessary resource for innovation and strategic change and, at the same time, has a great influence on how a company must be structured [27]. HC It is a combination of inherent genetics, education, experience, as well as life and business skills [28]. Moreover, represents value of knowledge and talent which are embodied or possessed by the people who conform the organization, Including values, attitudes, skills and abilities [29].

In addition to, Brooking [8] classifies HC into two types of assets: intellectual property and individual-centered. The first includes intellectual property assets, know-how, manufacturing secrets, copyright, patents and design rights, brands and services. These are the result of the mind but belong to the company and are protected by law, although varies by country. While human-centered human assets are based on the knowledge. They emerge from a more long-lived population with a greater demand of life quality and include collective experience, creativity, problem-solving ability, leadership, entrepreneurship and management skills. Furthermore, involve psychometric indicators about how individuals can perform in situations such as teamwork and stress.

2.3 Structural capital

Structural capital (SC) includes all non-human knowledge containers, which involves databases, process manuals, strategies, routines and analyzes that value the company [26]. It is important to emphasize that an organization with strong structural capital has a culture that allows people to perform tasks, fail, learn and try again [28].

Also, SC is the set of knowledge and intangible assets derived from the processes of action that are owned by the organization, which remains there when people abandon it. Even it is composed of organizational capital and technological capital. The first is associated with design, processes and culture; while the second type is linked to innovation, the use of technological endowment and its results [21].
2.4 Relational capital

Relational capital (RC) involves knowledge of market channels, customers, supplier relationships, and understanding of government impacts [26]. Among others, includes market orientations, customers, competitors and market learning systems. The essence of this capital is to relate outside and inside the organization [28].

RC can be defined as the set of knowledge that is incorporated into the organization and people as a consequence of the value derived from the relationships, which maintains with the agents of the market and the society in general. It also consists of social capital and social capital [30].

Social capital is the company’s set of relations with the social agents that affect the integration, commitment, cooperation, cohesion, connection and social responsibility [31-32]. It consists of relations with public administrations (collaboration and participation in public management), media and corporate image (brand awareness); as well as environmental care, social relations and corporate reputation [30].

3 Method

3.1 Research approach and design

A quantitative approach was employed in this research because numerical data were used to test the study hypotheses [33]. It is also correlational because the association among intellectual capital dimensions was measured [34]. A transversal study was done because the information was collected only once in time; while that its design is not experimental since no manipulation of variables nor subjects was performed [35]. For the analyses and data processing, the statistical package for social sciences (SPSS, version 21) and structural equation modeling software (EQS, version 6.1) were utilized.

3.2 Study sample

In this study, a non-probabilistic sample was obtained for convenience, which was conformed by 103 companies from Cajeme, Sonora, México. Some of the main characteristics of these companies are shown in Table 1.

3.3 Measurement instrument

The general measurement instrument of the study was composed of a socio-demographic section and one instrument whose purpose to measure intellectual capital.
In this case, a Spanish version of a questionnaire to measure intellectual capital was used, which was based on Subramaniam and Youndt [36], and comprises 14 items answered using a Likert-type scale with five options to respond, ranging from 1 (Strongly disagree) to 5 (Strongly agree), where higher scores indicated higher levels of agreement.

Moreover, although in the original study the dimensions were called human capital, social capital and organizational capital [36], we chose to name them as human capital, structural and relational capital, as defined by Skandia [6], Bontis [7], Stewart [9], CIC [30] and Edvinsson and Malone [16]. For this reason, the study variable was operationalized as is shown in Table 3.

Exploratory factor analysis was followed to measure the validity of the measurement instrument, using principal component analysis with Varimax rotation. Favorable values were found in the index Kaiser-Meyer-Olkin (0.834), Bartlett’s test of sphericity ($X^2 = 1199.40$, gl = 276, $p < .001$), and factorial loads greater than 0.45 in all the questions [37-38]. Furthermore, all the items were grouped according to the dimensions proposed by the authors (see Table 2).

Moreover, it is important to mention that a reliability assessment of the variables of the measurement instrument and its dimensions was performed by means of the Cronbach’s alpha coefficient, where all coefficients resulted above the normal levels of acceptance: human capital ($\alpha=0.823$), structural capital ($\alpha=0.842$) y relational capital ($\alpha=0.85$) (see Table 3).
Table 2. Exploratory factor analysis (N = 103)

| Items                          | Factor Loading |     |     | n²  |
|-------------------------------|----------------|-----|-----|-----|
| Qualified Employees           | .813           | .061| .142| .685|
| Employees are the best        | .698           | .266| .170| .587|
| Creative employees            | .826           | .044| .335| .797|
| Skilled employees.            | .587           | .209| .179| .420|
| Develop of new ideas          | .525           | .148| .517| .607|
| Use of patents                | .055           | .752| -.067| .573|
| Knowledge in databases        | .131           | .830| .136| .573|
| Organizational culture        | .189           | .823| .095| .573|
| Conversion of knowledge       | .182           | .813| .236| .573|
| Relationship between employees| .408           | .179| .653| .624|
| Information sharing and learning| .300         | -.061| .771| .688|
| Interaction and exchange of ideas | .293         | -.051| .760| .666|
| Relationship with suppliers and partners | .046 | .212| .699| .536|
| Applied knowledge             | .114           | .154| .849| .757|

Note: Boldface indicates highest factor loading. n² = communality

Table 3. Dimensions and Reliability (N = 103)

| Variable                  | Dimensions     | Elements | (a)  |
|---------------------------|----------------|----------|------|
| Human capital             | 5              | 0.823    |
| Intellectual capital      | Structural     | 4        | 0.842|
|                           | Relational     | 5        | 0.85 |

Note: a = Cronbach’s alpha coefficient.

4 Results

After obtain favorable results, both in the validity analysis –exploratory factorial analysis– and the reliability, Structural Equation Modeling (SEM) was performed. Using the EQS software, a standardized structural model was obtained through the three types of intellectual capital: human capital (HC), structural capital (SC) and relational capital (RC).

Figure 1 shows that the IC dimensions were significantly and positively associated. Moreover, adequate values were found in the adjustment measures of the structural model, through the indicators: \( \chi^2/\text{gl} \), RMSEA, CFI, IFI y NNFI (see Table 4). These results coincide with those obtained by Pearson correlation in the relation between: HC-SC (\( r = 0.369; p < .001 \)), HC-RC (\( r = 0.617; p < .001 \)), SC-RC (\( r = 0.267; p < .001 \)), as is shown in Table 5. In this way, the empirical evidence could support \( H_1 \).
Table 4. goodness-of-fit indicator of the models for capital intellectual dimension (N= 103)

| Indicator | Accepted value | Results |
|-----------|----------------|---------|
| $X^2$     | 120.49         |         |
| df        | 91             |         |
| $X^2$/df  | <3.0           | 1.324   |
| RMSEA     | 0.06~RMSEA<1.0 | 0.083   |
| CFI       | >0.90          | 0.924   |
| IFI       | >0.90          | 0.926   |
| NNFI      | >0.90          | 0.903   |

Note: The accepted values were taken from Ho [34]

Table 5. Correlation of factors (N = 103)

| Dimensions | 1   | 2   | 3   |
|------------|-----|-----|-----|
| HC         | --- |     |     |
| SC         | .369| --- |     |
| RC         | .617| .267| --- |

Note: $p < 0.01$ (two tails).

On the other hand, linear regression was used to test $H_2$ and $H_3$, where we found that human capital influences structural capital and relational capital. In both cases, the effect was positive and significant; however, the explanation was 13% and 38% according to the statistic $R^2$ (see Table 6).
Table 6. Regression analysis considering to “human capital” as independent variable

| Factor | B   | SE  | β   | t      | p     |
|--------|-----|-----|-----|--------|-------|
| EC*    | .511| .128| .369| 3.990  | .000  |
| RC**   | .666| .085| .617| 7.871  | .000  |

Note. *R² = 0.136; **R² = 0.380.

5 Conclusion

It is important to consider that the value of knowledge is in growth [15], because money has become dematerialized and intangible assets have become more valuable and powerful than natural resources, large factories or bank accounts [8]. Therefore, the study of intellectual capital has become increasingly important, especially within the Latin American context.

From a theoretical approach, according to Grant [4], KBV is based on the process of transfer, absorption capacity, appropriation, specialization and transformation of knowledge into products and services within the company. However, to be a reality, this requires intellectual capital, which through the development of human capital allows the transfer of knowledge through structural capital, and then, this can be reflected in the relationship that the company has with its customers, suppliers and society [19].

The results obtained with 103 companies from Sonora, Mexico, show that there is a significant relationship between the three dimensions of intellectual capital. This consists with Skandia [6], Bontis [7], Edvinsson [22] and, Ahmad, Naji and Bontis [23]. In addition to, this empirical evidence shows that human capital —-through the attitudes, knowledge and skills—, allows the development of structural and relational capital, as proposed by Bontis [7], Edvinsson and Malone [16], and Stewart [9].

Consequently, through Pearson correlation and structural equations modeling, the three hypotheses of study were sustained; however, the evidence found does not allow the generalization of the findings. Nevertheless, the most important thing of this study is that it showed how these capitals are associated from a structural perspective.

For future research, would be convenient to perform a validation study for the instrument proposed by Subramaniam and Youndt [36], in spanish version. This could favor the study of intellectual capital with Latin American organizations, because this instrument is short, easy to administer and clear; in addition, this showed adequate results within the exploratory factor analysis and structural equations modeling, as well as the level of reliability.

On the other hand, it is recommended to do a study with a larger sample within the Mexican context, where it also includes other intangible variables such as knowledge management, innovation, learning, organizational culture, and other intangible variables, in order to measure their association.

Considering that the principal limitation of the study is the size of the sample –-103 companies—, because Jackson [39] recommends to have at least 200 subjects for the use of structural equations. However, according to Ho [34] there is still no consensus about the minimum sample to use this statistical technique. Therefore, for future re-
search it would be advisable to do the study with a larger sample, especially if the
instrument will be validated.

6 Acknowledgment

The authors acknowledge the institutional support of the Instituto Tecnológico de
Sonora through the “Program for the Support and Development of Research Projects”
(PROFAPI, by its Spanish acronym).

7 References

[1] D. Nevado and V. López, El capital Intelectual. Modelos, informes, desarrollos y
Aplicaciones [Intellectual capital. Models, reports, developments and applications.
Valuation and Measurement], Madrid: Prentice Hall, 2002.
[2] B. Wernerfelt, “A resource-based view of the firm,” Strategic Management Journal,
vol. 5, pp. 171-180, 1984. http://dx.doi.org/10.1002/smj.4250050207
[3] J. B. Barney, “Firm resources and sustained competitive advantage,” Journal of Manage-
ment, vol. 17, pp. 99-120, 1991. http://dx.doi.org/10.1177/014920639101700108
[4] R. M. Grant, “Toward a knowledge-based theory of the firm,” Strategic Management
Journal, vol. 17, pp. 109-122, winter 1996. http://dx.doi.org/10.1002/smj.4250171110
[5] J.B. Barney, D. Ketchen and M. Wright, “The future of Resource-Based Theory:
Revitalization or Decline?,” Journal of Management, vol. 37, pp. 1299-1315, 2011.
http://dx.doi.org/10.1177/0149206310391805
[6] Skandia, Visualizando inteligencia en Skandia, Sweden: Intellectual capital
supplement, 1994.
[7] N. Bontis “There’s a price on your head: managing intellectual capital strategically,”
Business Quarterly, vol.60, pp. 40-78, 1996.
[8] A. Brooking, El capital intelectual, el principal activo de las empresas del tercer milenio
[The intellectual capital, core for the third millennium], España: Paidós, 1997.
[9] T. Stewart, La nueva riqueza de las organizaciones: el capital intelectual [Intellectual
capital: The new wealth of organizations], España: Granica, 1998.
[10] P. Mercado and D. A. Cernas, El capital intelectual en las organizaciones. Una agenda de
investigación [Intellectual capital in organizations. A research agenda], México: Bonobos
Editores, 2012.
[11] E. T. Penrose, The theory of growth of the firm, New York: Wiley, 1959.
[12] F. Machlup, The production and distribution of knowledge in the United States, New
Jersey: Princeton University Press, 1962.
[13] P. F. Drucker, The age of discontinuity: Guidelines to our changing society, NY: Harper &
Row, 1969.
[14] C. Obeso, Capital intelectual [The intellectual capital], Barcelona: Gestión 2000, 2003.
[15] J. Roos, G. Roos, N. Dragonetti and L. Edvinsson, Capital Intelectual, El intangible de la
empresa [Intellectual capital: navigating in the new business landscape], Barcelona:
Paidós, 2001.
[16] L. Edvinsson and M. S. Malone, El capital intelectual, Cómo identificar y calcular el
valor de los recursos intangibles de su empresa, [Intellectual capital, the proven way to
establish your company’s real value by measuring its hidden brainpower], México:
Gestión 2000, 2001.
[17] J. W. Kendrick, “Some Theoretical Aspects of Capital Measurement,” *The American Economic Review*, vol. 2, pp. 102–111, 1961. [http://www.jstor.org/stable/1914473](http://www.jstor.org/stable/1914473)

[18] A. Wu, “The Integrations between balanced scorecard and intellectual capital,” *Journal of Intellectual Capital*, Vol. 6, pp. 267-284, 2005. [http://dx.doi.org/10.1108/14691930510592843](http://dx.doi.org/10.1108/14691930510592843)

[19] E. Fierro, P. Mercado and D. A. Cernas “Gestión del conocimiento y capital intelectual desde la teoría de recursos y capacidades” [Knowledge management and intellectual capital from the resource based-view] In P. Mercado and D. A. Cernas, *El capital intelectual en las organizaciones. Una agenda de investigación*, Toluca, México: Bonobos Editores, 2012, pp.45-55.

[20] R. Kaplan and D. Norton, “Balanced Scorecard, Measures that drive Performance,” *Harvard Business Review*, vol. 70, pp. 70-79, 1992.

[21] E. Bueno-CIC, “Modelo Intellectus: Medición y Gestión del Capital Intelectual [Model for Measurement and Management Intellectual Capital: Intellectus Model],” in *Documentos Intellectus*, CIC-IADE, Ed. Madrid: UAM, 2003.

[22] L. Edvinsson, “Developing intellectual capital at Skandia,” *Long Range Planning*, vol. 30, pp. 366-373, 1997. [http://dx.doi.org/10.1016/S0024-6301(97)00248-X](http://dx.doi.org/10.1016/S0024-6301(97)00248-X)

[23] Ahmad, S. Naji and N. Bontis, “Intellectual capital and business performance in the pharmaceutical sector of Jordan,” *Management Decision*, vol. 48, pp. 106-131, 2010. [http://dx.doi.org/10.1108/00251741011014481](http://dx.doi.org/10.1108/00251741011014481)

[24] N. Bontis, “Intellectual capital: an exploratory study that develops measures and models,” *Management Decision*, vol.36, pp.63 – 76, 1998. [http://dx.doi.org/10.1108/00251749810204142](http://dx.doi.org/10.1108/00251749810204142)

[25] P. Sullivan, *Rentabilizar el Capital Intelectual, Técnicas para optimizar el valor de la Innovación*, España: Paidós Ibérica, 2001.

[26] N. Bontis, “Managing organizational knowledge by diagnosing intellectual capital: framing and advancing the state of the field,” *International Journal Technology Management*, vol. 18, pp. 433-462, 1999. [http://dx.doi.org/10.1504/IJTM.1999.002780](http://dx.doi.org/10.1504/IJTM.1999.002780)

[27] N. Bontis, W. Chua and S. Richardson, “Intellectual Capital Business Performance in Malaysian Industries,” *Journal of Intellectual Capital*, vol. 1, pp. 85-100, 2000. [http://dx.doi.org/10.1108/14691930010324188](http://dx.doi.org/10.1108/14691930010324188)

[28] N. Bontis, “Assessing knowledge assets: a review of the models used to measure intellectual capital,” *International Journal of Management Reviews*, vol. 3, pp. 41-60, 2001. [http://dx.doi.org/10.1111/1468-2370.00053](http://dx.doi.org/10.1111/1468-2370.00053)

[29] A. Trillo, and R. Espejo, “Propuesta metodológica para establecer un índice de cultura organizacional a través del capital intelectual [Methodological Proposal to develop an Organizational Cultural Index through the Intellectual Capital of de Firms],” *Estudios de Economía Aplicada*, vol.26, pp. 105-118, 2008. [http://www.redalyc.org/articulo.oa?id=30113187006](http://www.redalyc.org/articulo.oa?id=30113187006)

[30] CIC, “Identificación y Medición del Capital Humano,” in *Documentos Intellectus*, CIC-IADE, Ed. Madrid: UAM, 2002.

[31] E. Bueno, “El capital social en el nuevo enfoque del capital intelectual de las organizaciones [Social capital in the light of the new approach to intellectual capital in organizations],” *Revista de Psicología del Trabajo y de las Organizaciones*, vol. 8, pp.157-176, 2002. [http://www.redalyc.org/articulo.oa?id=23131827403](http://www.redalyc.org/articulo.oa?id=23131827403)

[32] E. Bueno, M.P. Salmador and C. Merino, “Génesis, conceptos y desarrollo de capital intelectual en la economía del conocimiento: Una reflexión del modelo intelectus y sus aplicaciones [Origins, Concept and Developments of Intellectual Capital in the Knowledge Economy: A Reflection on the Intellectus Model and its Applications],” *iJAC*, vol. 10, no. 1, 2017.
Economy: Intellectus Model and its Main Applications],” Estudios de Economía Aplicada, vol. 26, pp. 43-63, 2008. http://www.redalyc.org/articulo.oa?id=30113187003

[33] R. Hernández, C. Fernández-Collado and P. Baptista, Metodología de la Investigación [Research methodology], 6th ed., México: McGraw Hill, 2014.

[34] R. Ho, ed. Handbook of Univariate and Multivariate Data Analysis with IBM SPSS, Florida, USA: Taylor & Francis Group, LLC, 2014.

[35] J.W. Creswell, Research design. Qualitative, quantitative and mixed methods approaches, 3rd ed. Los Angeles: SAGE, 2009.

[36] M. Subramanian and M.A. Younbd, “The influence of intellectual capital on the types of innovative capabilities,” Academy of Management Journal, vol. 24, pp. 450-463, 2005. http://dx.doi.org/10.5465/AMJ.2005.17407911

[37] F. Hair, R. Anderson and W. Black, Análisis multivariante [Multivariate analysis], 5th ed. España: Prentince Hall, 2004.

[38] M. A. Pett, N. R. Lackey and J.J. Sullivan, Making Sense of Factor Analysis: The Use of Factor Analysis for Instrument Development in Health Care Research California, United States: SAGE Publications, 2003.

[39] D.L. Jackson, “Revisiting sample size and number of parameter estimates: some support for the N.Q hypothesis,” Structural Equation Modeling, vol. 10, pp. 128-141, 2003. http://dx.doi.org/10.1207/S15328007SEM1001_6

8 Authors

Marco Alberto Núñez Ramírez is with the Department of Management, Instituto Tecnológico de Sonora, Calle 5 de febrero 818 Sur, C.P. 85000, Ciudad Obregón, Sonora, México (marco.nunez@itson.edu.mx).

Joaquín Nunez is mechanical engineering student at the University of Texas at El Paso, Texas, USA. (jr_nunez1996@hotmail.com).

Roger Alejandro Banegas Rivero is with the Universidad Autónoma Gabriel René Moreno, Santa Cruz, Bolivia. He is also Director of the Institute of Economic and Social Research “José Ortiz Mercado” (IIES-JOM) (aleconomista@gmail.com).

María Nélida Sánchez Bañuelos is master’s student of organizational management at Instituto Tecnológico de Sonora (nelidasb.21@gmail.com).

Article submitted 09 March 2015. Published as resubmitted by the authors on 09 April 2015.