Contents

«Retos» is a bilingual scientific publication of the Salesian Polytechnic University of Ecuador, published since January 2011 without interruption, with a fixed bi-annual periodicity (April 1 and October 1), specialized in Development and its transdisciplinary lines as Public Administration, Social Economy, Marketing, Tourism, Entrepreneurship, Management, Administrative and Economic Sciences, among others. It is a peer-reviewed scientific journal, which uses the system of external evaluation by experts (peer-review), under the methodology of blind pairs (double-blind review), according to the publication norms of the American Psychological Association (APA). The fulfillment of this system allows guaranteeing the authors an objective, impartial and transparent review process, which facilitates the inclusion of the publication in databases, repositories and international reference indexes. The Journal is published in two versions: printed (ISSN: 1390-62911) and electronic (e-ISSN: 1390-8618), in Spanish and English. All articles are available on the journal's website (http: // retos.ups.edu.ec).

Domicile of the publication: Salesian Polytechnic University of Ecuador, post office box 2074, Cuenca-Ecuador. Telephone (+5937) 2050000. Fax: (+5937) 4088958. E-mail: revistaretos@ups.edu.ec

Printed in Ecuador

EDITORIAL

Editorial Abya Yala (Quito-Ecuador)
Avenida 12 de octubre N422 y Wilson, Bloque A, UPS Quito, Ecuador. Casilla 17-12-719
Phones: (593-2) 3962800 ext. 2638
e-mail: editorial@abyayala.org

UNIVERSIDAD POLITÉCNICA SALESIANA DEL ECUADOR

Javier Herrán Gómez, sdb

Rector

Turuhuayco 3-69 y Calle Vieja
Casilla postal 2074
Cuenca, Ecuador.
Telephone: (+593 7) 2 050 000
Fax: (+593 7) 4 088 958
E-mail: srector@ups.edu.ec
TRADE
Trade with other periodicals is accepted.
Go to:
Secretaría Técnica de Comunicación y Cultura
Universidad Politécnica Salesiana
Av. Turuhuayco 3-69 y Calle Vieja
Casilla postal 2074
Cuenca, Ecuador.
PBX: (+593 7) 2 050 000 - Ext. 1182
Fax: (+593 7) 4 088 958
e-mail: rpublicas@ups.edu.ec
www.ups.edu.ec
Cuenca - Ecuador

Retos

Year IX, Issue 18, October-March 2019

Print ISSN: 1390-6291 / electronic ISSN: 1390-8618

The management of RETOS is carried out through the following parameters:

The journal uses the anti-academic plagiarism system

The articles have an identification code (*Digital Object Identifier*)

The editorial process is managed through the OJS *Open Journal System*

It is an open access publication (*Open Access*) with Creative Commons license

The copyright and use policies post print, are published in the Auto-Archive Policy Repository SHERPA/ROMEO.

The articles of the present edition can be consulted in: http: //magazines.ups.edu.ec/index.php/retos

Monographic Dossier

Retos, *9*(18), 2019
Journal of Administration Sciences and Economics | p-ISSN impreso: 1390-6291| e-ISSN: 1390-8618

www.retos.ups.edu.ec

Happiness Management in the age of Industry 4.0

Happiness Management en la época de la Industria 4.0

Dr. Rafael Ravina-Ripoll is a professor and researcher at Universidad de Cádiz (Spain) (rafael.ravina@uca.es) (https://orcid.org/0000-0001-7007-3123)

Dr. José Marchena Domínguez is a professor and researcher at Universidad de Cádiz (Spain) ((jose.marchena@uca.es) (https://orcid.org/0000-0002-7612-7484)

Dr. Miguel Ángel Montañes Del Rio is a professor and researcher at Universidad de Cádiz (Spain) ((miguelangel.montanes@uca.es) (https://orcid.org/0000-0001-6032-9965)

Abstract

The era of Industry 4.0 is characterized, on the one hand, by the existence of governance systems that are gradually eroding the Welfare State, and on the other hand, by the implementation of business management models based on precarious work and the massive reduction of jobs. This is a result of the automation of production processes and the widespread use of robots and automation. All these factors negatively influence human happiness, especially in ecosystems that live far from the guiding principles of wellbeing and justice. Faced with this reality, the purpose of this article is to indicate that Happiness Management constitutes an important component in the creation of companies that cultivate a virtuous circle of happiness and the creation of a positive atmosphere inside organizations. These qualities stimulate innovation and creativity and help to build an inclusive capitalism in the midst of technological perturbation. They cushion companies that employ management models based on Happiness Management from social inequalities. It must be taken into account that the human capital of the industrial sector is not taking advantage of the benefits provided by robots in their daily work. This investigation will also require a brief reflection on models of environmental sustainability and social coexistence that guarantee a stable and happy future generation.

Resumen

La era de la industria 4.0 se está caracterizando, por un lado, en la existencia de sistemas de gobernanza que gradualmente está erosionando el estado de bienestar, y por otro, en la implementación de modelos de gestión empresariales basados en la precariedad laboral y la reducción masiva de puestos de trabajos derivados de la automatización de los procesos productivos y el uso extensivo de los robots. Todos estos factores influyen negativamente en la felicidad de los seres humanos, especialmente en ecosistemas que viven alejados de los principios rectores del bienestar y la justicia. Ante esta realidad, el objeto de este artículo es discutir, a partir de una revisión crítica de literatura académica, que el «Happiness Management» constituye una importante pieza axial en la generación de empresas que cultiven el círculo virtuoso de la felicidad y la creación de una atmósfera positiva en el interior de las organizaciones que estimulen la innovación y la creatividad. De esta forma se puede construir -en plena perturbación tecnológica-, un capitalismo inclusivo que amortigüe las desigualdades sociales a partir de empresas que lleven a cabo modelos de gestión sustentados en el «Happiness Management», teniendo presente que el capital humano del sector industrial no está aprovechando los frutos que originan los robots en su trabajo diario. Esto también precisa efectuar una breve reflexión sobre modelos de sostenibilidad medioambiental y convivencia social que garanticen un futuro generacional estable y feliz.

Keywords | palabras clave

Happiness, industry 4.0, sustainability, innovation, wellbeing, human resources, creativity, firm.
Felicidad, industria 4.0, sostenibilidad, innovación, bienestar, recursos humanos, creatividad, empresa.

Suggested citation: Ravina-Ripoll, R., Marchena Domínguez, J., & Montañez Del Rio, M.A. (2019). Happiness Management in the age of Industry 4.0. *Retos Journal of Administration Sciences and Economics, 9*(18), 183-194. https://doi.org/10.17163/ret.n18.2019.01.

Received on: 05/26/19 | Reviewed on: 07/03/19 | Approved on: 07/14/19 | Published on: 10/01/19

Retos, 9(18), 2019

1. Introduction

Happiness and the attainment of well-being was an identifiable goal that historically moved individuals and social groups and which remain being *leitmotiv* of policies, economics and thinking. A cross-cutting concept that requires its definition and sequencing to better understand many of the keys that characterize the era of Industry 4.0, an era that will bring with it new models of production and management of human resources (Popkova, Ragulina & Bogoviz, 2019). From this side, companies must, on the one hand, have flexible and dynamic structures that allow to respond quickly to the demands of the market (Lasi, Fettke, Kemper, Feld & Hoffmann, 2014); and on the other hand, have a workforce not only with a high academic and professional background, but also with an open mind towards innovation, creative thinking, social skills, teamwork, problem solving, among others (Beneová and Tupa, 2017; Romero-Rodríguez and Castillo-Abdul, 2019). This will require a management model or a corporate culture where the happiness of human capital is directly linked to aspects such as production, efficiency and competitiveness. The cultivation of this construct, along with the comprehensive search for hyper-connected customer satisfaction, will significantly stimulate the economic and financial profitability of big multinationals, as well as small and medium-sized enterprises (Baker, Greenberg and Hemingway, 2006).

In the mid-2016, Smit, Kreutzer, Moeller and Carlber (2016) elaborated a study for the European Union[1] in which they demonstrated how Industry 4.0 will bring to the economy productive entities that will be forced to implement flexible models of business. In this way, these companies will be able to offer quality goods or services to their potential customers. This requires, on the one hand, that companies adapt quickly to technological changes, and on the other hand, that they enjoy an organizational culture that allows to improve the collective well-being of employees in the digital society. In our view, the latter could be achieved when senior management of companies internalize that happiness management or "Happiness Management" helps mitigate Milton Friedman´s economic thinking, basically inspired by the only goal of corporations to maximize the monetary benefit of their shareholders. In order to confront this idea, it is suggested in the next few pages and in a very short way that "Happiness Management" is a management model that provides the possibility of incentivizing collective happiness through the following vectors: flexibility, confidence, commitment, trust and learning (Vazquez, 2012).

2. Literature review and state-of-the-art

Monographs on the modern academic discipline of the economics of happiness have emerged throughout the 21st century in the scientific world (Frey & Stutzer, 2018; Sánchez-Vázquez, 2018; Crespo & Mesurado, 2015; Rodríguez-Muñoz & Sanz-Vergel, 2013; Nelson, 2010; Kahneman & Krueger, 2006). This cognitive phenomenon can be mainly caused by three factors: The first is that at the beginning of this century, specifically in 2003, Hills and Argyle draw up the Oxford Happiness Questionnaire

1 Available on: https://bit.ly/1QRykFi (Consultation date: 03/20/2019)

(OHQ) [2]. This psychometric instrument showed that humans who enjoy a high rate of happiness in their daily lives is basically due to the development of the following variables: extroversion, kindness, sense of humor, sense of purpose, aesthetic appreciation, autonomy, self-efficiency, physical health, self-esteem (Arunachalam, 2018). Since then a significant volume of specialists of this academic topic has begun to widely use this questionnaire in their empirical studies on organizational commitment-work happiness and leadership- happiness in the age of the industry 4.0 (Salas-Vallina, López-Cabrales, Alegre & Fernández, 2017; Wang & Yang, 2016).

The second referred that in the recent decades most scientific-academic production of happiness has in common the use of the term "happiness" as a synonym for subjective well-being, job satisfaction or quality of life (Seligman, 2016; Mackerron, 2012: Oishi, 2012, Rojas, 2009; Zelenski, Murphy & Jenkins, 2008; Diener, 2000), fact related with academic debates. However, this scientific axiom attracted the attention of economists, sociologists and psychologists in analyzing whether human happiness has a significant correlation with independent variables: age, sex, religion, marital status, health or level of study (Graham & Pozuelo, 2017; Zweig, 2015; Cuñado & De Gracia, 2012; Frijters & Beatton, 2012; Andersson, 2008; Lu, 2000). In this sense, it is advisable to point out that many of the results of these works are often criticized academically since they measure happiness subjectively, and therefore not empirically-scientifically (Ahn & Mochón, 2010). This assertion is because they generally use as their primary source of information the answers provided by individuals as the primary source of information when asked in the surveys: To what extent do you consider yourself a happy or unhappy person? This item is found not only in the annual survey produced by the American consultancy Gallup on happiness, but also in the barometers carried out by the Centre for Sociological Research (CIS) in Spain since 2013. The same is not the case with the annual report designed by the United Nations (UN) on the world ranking of the happiest countries in the world, as it measures happiness from the study of the following ratios: Gross Domestic Product, Social Aid, Life expectancy, Freedom, Perception of Generosity, Corruption and Quality of Life of Immigrants. Given this methodological difference, it is not surprising that there are strong discrepancies in the happiness classification offered by Gallup and the UN for 2017[3].

And the third factor cannot be understood but it is referred to that in mid-2011, the UN issues a resolution stating that "the pursuit of happiness is a fundamental human objective and embodies the spirit of the globally agreed objectives known to Millennium Development Goals" (UN, 2011). These words are pronounced in the midst of a wide and extensive scientific literature on the economy of happiness, as well as in the midst of the development of multiple scientific events on this topic in the institutions of higher education in Europe and America (Rojas, 2016). Such a fact encouraged researchers to explore the studies of the polysemia of happiness under

2 Available on: https://bit.ly/2YsZrRI (Consultation date: 03/21/2019)
Available online at: https: https://bit.ly/2YsZrRI (Consultation date: 03/21/2019)

3 In that year, the Fiji Islands was the happiest country in the world for Gallup, while for the UN it was Norway (La Vanguardia, 2018; World Happiness Report, 2017).

the prism of multidisciplinary and academic transversality. From this approach León Tolstói can be refuted when he wrote in *War and Peace* that happiness is monotonous and uniform (Vázquez and Hervás, 2009). Today, it is known that collective happiness is determined by multiple vectors, including the existence of territories that promote the social progress of citizens through the development of a circular, innovative and ecological economy (Villena-Manzanares and Galiano-Coronil, 2017). This facilitates the construction of a welfare state under the synergies of sustainability, social dialogue, competitiveness, entrepreneurship and public investment (Ravina-Ripoll, Tobar-Pesantez & Galiano-Coronil, 2018; Rothstein, 2010; Pacek & Radclif, 2008).

Once stated in the previous lines a diaphanous image about the bibliographic production of the happiness economy as a discipline that falls within the welfare economy (Esteve, 2004), it is advisable to notice the existence of a scarce number of scientific research to empirically study the term "Happiness Management" at the age of Industry 4.0 (Nogueira et al., 2017; Villegas, et al., 2015; Cera, 2012). Perhaps this fact is derived, on the one hand, because when someone reads this attractive expression, the person associates it directly with the expression corporate or work happiness (Pryce-Jones & Lindsay, 2014). In this sense, Salas-Vallina, Alegre and Guerrero (2018) reveal that the highest managers of organizations must bet on a management model that encourages work happiness through individual commitment, job satisfaction, transformational leadership and altruism; and on the other hand to the absence of a clear conceptualization of the word happiness in the academic area of company organization, taking into account the documentation consulted for the elaboration of this article. Therefore, it is necessary to promote research groups that address the study of "Happiness Management" as a branch of the science of happiness that emerges with the mission of teaching "happy-sophy" holistically. This is understood as the culture or organizational philosophy that allows leaders of public administrations and companies to drive comprehensive strategic policies where the pursuit of happiness - both individual and corporate - is above the interests of the great elites (Ravina-Ripoll, 2017). This will help to promote the construction of most innovative, entrepreneurial, sustainable, ecological and creative productive foundations and ecosystems in digital society (Ravina-Ripoll, Tobar-Pesantez & Núñez-Barriopedro, 2019; Dolan & Metcalfe, 2012).

The intellectual property of the term "Happy-sophy"[4] emerges within the research group IGOMSOH (Iberoamerican Group of Multidisciplanary Studies on Happiness) of the Salesian Polytechnic University (Ecuador). Among its main research objectives is, on the one hand, to continue to deepen the analysis of "Happiness Management" as a valid and effective instrument for the design of innovative organizational management strategies in the age of the Industry 4.0 (Ravina-Ripoll, Villena-Manzanares & Gutiérrez-Montoya,2017), and on the other hand, to

4 This concept originated with the aim of letting know those responsible for public administrations and companies that the sustainable development of the territories must come from the implementation of comprehensive strategic policies where the pursuit of holistic happiness of citizens is above the economy and the particular interests of the great elites. In this way there can be a more inclusive, healthy, tolerant, etc. environment. It is worth mentioning that the intellectual property of "Happy-sophy" is registered in the Ministry of Education, Culture and Sport of Spain under the number 14/2018/248.

intensify scientific production on the study of happiness from a transdisciplinary and transversal approach (Ravina-Ripoll *et al.*, 2019; Ravina-Ripoll, Tobar-Pesantez and Marchena-Domínguez, 2019). This information can be very interesting to explore how subjective well-being and corporate happiness influence the sustainable and environmental development of welfare states in today's digital society (Frey and Stutzer, 2010; Rego, Ribeiro and Cunha, 2010).

Despite the little space elapsed since the issuance of the Oxford Happiness Questionnaire (OHQ, *op. cit*), just over three lusters have allowed creating a concept that begins to be applied from guidelines leadership, in order to compensate the mismatches from the age of Industry 4.0. A study of happiness that, whether subjectively or empirically, provides accurate information to address the most interesting parameters and to complete happiness as a fundamental human value, from the management of the organizations involved and from the specialist studies and projects that give it meaning (Ferrer & Carbonell, 2013; Blanchflower & Oswald, 2011; Pacek & Radcliff, 2008).

3. Materials and methods

The main objective of this work is to assist in understanding the modern concept of happiness management contextualized in the age of Industry 4.0. For this purpose, a generalist bibliometric and hermeneutic analysis has been carried out (Will, Bertrand & Fransoo, 2002; Wacker, 1998), which can contribute significantly to improving knowledge of this academic discipline and therefore the state-of-the-art about this attractive and novel topic, which can be very interesting for future multidisciplinary studies to emerge about this business area of the happiness economy.

With regard to the choice of the time, it was chosen the time interval from the year 2000 to the present (2019), mainly due to the incipient novelty of this term in the scientific world as will be read later. After this, it was decided to use as a choice filter the word "Happiness Management" with the Boolean algorithm and selectivity by the metadata "theme" (which includes title, summary and keywords). The selected search engines were the Scopus platforms and the Web of Sciences (Wos). The query resulted in a representative sample of fewer than ten indexed articles. It is important to mention that the first text in the title of an article was written in 2017 by Nogueira Kamel, Martins, Pessanha and De Andrade in the Brazilian Journal of Science and Technology.

A second filter was then applied, which consisted of searching these two primary sources of information for the concept of 'Happiness Management' without quotation. This resulted in almost twenty articles, most of them belonging to the discipline of Business and Management. Among the many factors that explain this phenomenon, there is perhaps the interest that people have for the strategic direction of human resources to create a culture of happiness within their organizations (Blackman, O'Flynn & Mishra, 2010).

None of the work included in the Scopus and Wos databases provides a definition of the term 'Happiness Management', making it difficult to continue in the exponential development of the study. This can be very useful in building a more humanistic society open to the general interest of the public. Hence, the following section proposes an interpretation of this topic, as well as a definition of the term corporate happiness.

Retos, 9(18), 2019

4. Happiness Management: A multicultural management model to discover in the digital society

The age of Industry 4.0 is characterized by the automation of the productive processes generated by cyberphysics, computing, robotics and engineering. There is little to argue that incorporating all these technological advances into the daily lives of companies will result in a significant reduction in their manufacturing costs, and therefore, a higher level of competitiveness and sustainability in the era of digital society (Saucedo-Martínez et al., 2018; Moreno et al., 2017; Prause & Weigand, 2016; Maynard, 2015; Sommer, 2015). This reality seems to forget the old saying that mentioned that one of the most important assets that companies possess is the creative talent of their human capital. Hence, perhaps the existence of many companies lacking a culture aimed at fostering an organizational climate under the guiding principles of motivation, collaborative work, loyalty, commitment, social responsibility and work welfare.

Although the vectors causing this phenomenon are not the subject of study of this investigation, if trying to explain the modern concept of 'Happiness Management'. As mentioned above, on searching for this quoted expression in the Scopus and WoS databases was observed that only five articles have been written since 2009. All of them have in common that they understand 'Happiness Management' as a valid and effective instrument for vitalizing the job satisfaction of their employees, while they do not offer a concept or definition of that term in relation to the age of Industry 4.0. This leads to delimit, from an axiological-conceptual approach, the construction of a first definition of "Happiness Management": Multicultural management model aimed at incentivizing the following resources in the performance of the job: creativity, commitment, technological innovation, internal entrepreneurship and social responsibility. In this way, the virtuosic circle of corporate happiness can be promoted within organizations.

Figure 1. Existential factors of 'Happiness Management'

Figure 1 shows that the word "corporate happiness" appears without any conceptualization on this term, as is apparent from the consultation for the development of this research. Such a fact offers the possibility of describing corporate happiness

p-ISSN: 1390-6291; e-ISSN: 1390-8618

as the average rate of subjective well-being or of individual happiness that an organization's internal clients possess in the daily performance of their jobs during a given time interval (Ahumada-Tello *et al.*, 2018).

Because of the latter, it is convenient to note that corporate happiness cannot be interpreted as the mere aggregate sum of work and organizational happiness, since its implementation requires the active involvement of the leadership and the totality of internal customers. Therefore, organizational happiness must be understood as the commitment of senior management to increase corporate happiness by generating a working climate opened to technological innovation, constructive language, interaction, peer-to-peer communication, etc. In this way, an intangible asset can be built to stimulate positive emotions, creativity and interpersonal relationships, among others (Núñez-Barriopedro, Ravina-Ripoll & Tobar-Pesántez, 2019).

In this sense, it is not surprising that the large multinationals of the globalized world act aimed at exponentially increasing the work motivation and psychosocial well-being of their human resources, such as Google, Toyota, KPMG, IKEA, Facebook or Linkedin (Equipo & Talento, 2018).

According to the above, and bearing in mind that each individual has his/her own perception of subjective happiness, the term "work happiness" could already be defined in the digital society. This concept is creating a great debate in the academia, as many scholars understand that work happiness is determined solely by the satisfaction or positive pleasure that short-term employees get in the mere fulfillment of their functional tasks (Bandura and Lions, 2014). Other researchers believe that work happiness of organizations is explained by job satisfaction and multiple other variables, serve as an example, engagement, labor involvement, leadership style, trust, commitment, workplace, team-oriented culture, organizational development, knowledge management or human resources policy (Oswald, Proto & Sgroi, 2015; Yuan, 2015; Fisher, 2010).

Therefore, one might wonder how to achieve a happy organization in the age of Industry 4.0? Perhaps the answer is in "Happiness Management", a management model that is able to generate an innovative culture based on the construction of the virtuous circle of corporate happiness, where internal clients are increasingly excited to go to work and be more productive, bearing in mind that small increases in the collective happiness of organizations will lead to increases in a much higher proportion of economic or social returns.

In this line, two things should be made clear: on the one hand, the significant absence of "Happiness Management" in the strategic direction of organizations, and on the other, the scarcity of publications aimed at investigating "Happiness Management" as a very interesting tool to achieve an ocean full of innovative companies that move around the happiness of their human capital and not the maximization of economic and financial profits (Nogueira *et al.*, 2017)

4. Discussion and conclusions

Happiness is a concept of general identification and that every individual probably wants but it is a term that involves difficulties in defining its profiles, valuing its keys

Retos, 9(18), 2019

and listing its recipes to achieve it. Happiness has always been a discernible fact. However, from the theorization of its knowledge, it seems obvious to regard it as a tangible good and an indispensable challenge in ensuring the future and prosperity of human beings. Based on this latter idea, it seems clear the need to build and relate studies that dissect, break down, and extract the main parts of its keys. Then, identify them and know them and, finally, establish models and tools that make it possible to diagnose and guarantee such indispensable social and collective value.

There are studies that build various lines of happiness, but they are not yet enough. It is necessary to see an overview and to identify happiness – as most of these works coincide – as a cross-cutting model of political, economic and cultural aspects. A reality determined by physical, psychic and potential variables; empirical values, but also subjective; by design strategies and plans. The modernized societies sponsored by welfare state tried to meet the primary needs, headed primarily for the achievement of happiness. Similarly, the economy needed to be an effective and intense model capable of overcoming ups and downs and undesirable consequences.

In this sense, microeconomic alternatives or Happiness Management are pointed to as an attractive management model that curbs excessive technology in the age of Industry 4.0, since the taking over responsibilities by the policymakers that take care of talent and human capital. To do this, organizations must basically consider two aspects: The first is to incentivize a business culture that considers its employees as a driving force for innovation, creativity or teamwork; and the second, to implement the "Happiness Management" model as an axial piece that plays a very relevant role for the top managers of the companies to contemplate their workers beyond the old role of *homo economicus*.

From these two vectors, companies that contemplate the pursuit of corporate happiness can be built as the means to maximize financial performance and achieve competitive advantages of a sustainable and lasting nature over time. Hence, the need for further research into the development of the term 'Happiness Management', in order to demonstrate that the economic viability of organizations is holistically promoting the collective happiness of their internal clients, and possessing a significant volume of more empathetic, social and altruistic leaders and middle managers with their job.

To conclude, on the one hand, it has been generally expressed throughout this text how relevant the application of "Happiness Management" is in the age of Industry 4.0. However, there are a number of limitations that will have to be overcome with the development of future scientific productions. These include the absence of an academic definition of this topic, which would help to develop empirical and methodological studies in order to explore the implication of "Happiness Management" on variables such as innovation, efficiency, human resources and the result of companies. On the other hand, an approach to this n term will undoubtedly enrich the limited literature.

p-ISSN: 1390-6291; e-ISSN: 1390-8618

References

Ahn, N., & Mochón, F. (2010). La felicidad de los españoles: factores explicativos. *Revista de Economía Aplicada*, *18*(54), 5-31.

Ahumada-Tello, E., Ravina-Ripoll, R., Galiano-Coronil, A., & Evans, R. D. (2018). Factors Affecting Corporate Happiness within Technology-Based Firms in Andalucia. En *2018 IEEE Technology and Engineering Management Conference (TEMSCON)*, pp.1-5. Illinois, Estados Unidos: IEEE. https://doi.org/10.1109/TEMSCON.2018.8488441

Nogueira, J., Varela, C., Batista, M., & Weiler, M. (2017). Creativity and innovation for corporate happiness management. *Brazilian Journal of Science and Technology*, *4*(1), 1-20. https://doi.org/10.1186/s40552-017-0038-7

Andersson, P. (2008). Happiness and health: Well-being among the self-employed. *The Journal of Socio-Economics*, *37*(1), 213-236. https://psycnet.apa.org/doi/10.1016/j.socec.2007.03.003

Arunachalam, T. (2018). An Investigation on the Factor Structure of Hindi Version of Oxford Happiness Questionnaire (OHQ). *Universitas Psychologica*, *18*(1), 1-11. https://doi.org/10.11144/Javeriana.upsy18-1.ifsh

Bandura, R. P., & Lyons, P. R. (2014). The art and science of job satisfaction. *Human Resource Management International Digest*, *22*(7), 32-35. http://dx.doi.org/10.1108/hrmid-10-2014-0141

Baker, D., Greenberg, C., & Hemingway, C. (2006). *What Happy Companies Know*. New Jersey, Estados Unidos: Pearson.

Benešová, A., & Tupa, J. (2017). Requirements for education and qualification of people in Industry 4.0. *Procedia Manufacturing*, *11*, 2195-2202. http://dx.doi.org/10.1016/j.promfg.2017.07.366

Blanchflower, D. G., & Oswald A. J. (2011). International happiness: A new view on the measure or performance. *The Academy of Management Perspectives*, *25*(1), 6-22. https://doi.org/10.5465/amp.25.1.6

Blackman, D., O'Flynn, J., & Mishra, D. P. (2010). Can strategic human resource management enable gross national happiness? *International Journal of Commerce and Management*, *20*(3), 232-245. https://doi.org/10.1108/10569211011076929

Cera, R. C. (2012). Nueva misión para la empresa competitiva: Happiness Management. *Capital humano: revista para la integración y desarrollo de los recursos humanos*, *25*(265), 90-94.

Crespo, R. F., & Mesurado, B. (2015). Happiness economics, eudaimonia and positive psychology: From happiness economics to flourishing economics. *Journal of Happiness Studies*, *16*(4), 931-946. https://doi.org/10.1007/s10902-014-9541-4

Cuñado, J., & De Gracia, F. P. (2012). Does education affect happiness? Evidence for Spain. *Social indicators research*, *108*(1), 185-196. http://dx.doi.org/10.1007/s11205-011-9874-x

Diener, E. (2000) Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, *55*(1), 34-43. http://dx.doi.org/10.1037/0003-066X.55.1.34

Dolan, P., & Metcalfe, R. (2012). The relationship between innovation and subjective wellbeing. *Research Policy*, *41*(8), 1489-1498. http://dx.doi.org/10.1016/j.respol.2012.04.001

Esteve, F. (2004). La economía de la felicidad: nuevos elementos para la crítica del liberalismo económico. En García, M.I. (Ed.), *Filosofía y economía de nuestro tiempo: orden económico y cambio social* (pp. 107-158). Madrid, España. Ministerio de Educación y Ciencia.

Ferrer i Carbonell, A. (2013). Happiness economics. *SERIEs*, *4*(1), 35-60. http://dx.doi.org/10.1007/s13209-012-0086-7

Fisher, C. D. (2010). Happiness at Work. *International Journal of Management Reviews*, *12*(4), 384-412. https://doi.org/10.1111/j.1468-2370.2009.00270.x

Frey, B.S., & Stutzer, A. (2010). *Happines and economics: How the economy and institutions affect human well-being*. New Jersey, Estados Unidos: Princeton University Press.

Frey, B. S., & Stutzer, A. (2018). *Economics of happiness*. Basilea, Suiza: Springer International Publishing.

Frijters, P., & Beatton, T. (2012). The mystery of the U-shaped relationship between happiness and age. *Journal of Economic Behavior & Organization*, *82*(2-3), 525-542. http://dx.doi.org/10.1016/j.jebo.2012.03.008

Graham, C., & Pozuelo, J. R. (2017). Happiness, stress, and age: How the U curve varies across people and places. *Journal of Population Economics*, *30*(1), 225-264. https://doi.org/10.1007/s00148-016-0611-2

Helliwell, J., Layard, R., & Sachs, J. (2017). *World Happiness Report 2017*. New York, Estados Unidos: Sustainable Development Solutions Network.

Hills, P., & Argyle, M. (2002). The Oxford Happiness Questionnaire: a compact scale for the measurement of psychological well-being. *Personality and Individual Differences*, *33*(7), pp. 1073-1082. http://dx.doi.org/10.1016/s0191-8869(01)00213-6

La Vanguardia (2018). *Islas Fiji es el país más feliz del mundo, según encuesta de Gallup*, 7 de enero. Recuperado de https://bit.ly/2K2jDWp

Kahneman, D., & Krueger, A. B. (2006). Developments in the Measurement of Subjective Well-Being. *Journal of Economic Perspectives*, *20*(1), 3-24. http://dx.doi.org/10.1257/089533006776526030

Lasi, H., Fettke, P., Kemper, H. G., Feld, T., & Hoffmann, M. (2014). Industry 4.0. *Business & information systems engineering*, *6*(4), pp. 239-242. http://dx.doi.org/10.1007/s11576-014-0424-4

Lu, L. (2000). Gender and conjugal differences in happiness. *The Journal of social psychology*, *140*(1), 132-141. https://doi.org/10.1080/00224540009600451

Mackerron, G. (2012). Happiness economics from 35000 feet. *Journal of Economic Surveys*, *26*(4), 705-735. http://dx.doi.org/10.1111/j.1467-6419.2010.00672.x

Maynard, A. D. (2015). Navigating the fourth industrial revolution. *Nature Nanotechnology*, *10*(12), 1005-1006. http://dx.doi.org/10.1038/nnano.2015.286

Moreno, A., Velez, G., Ardanza, A., Barandiaran, I., de Infante, A., & Chopitea, R. (2017). Virtualisation process of a sheet metal punching machine within the industry 4.0 vision. *International Journal on Interactive Design and Manufacturing*, *11*(2), 365–373. https://doi.org/10.1007/s12008-016-0319-2

Nelson, J. A. (2010). Getting past "rational man/emotional woman": comments on research programs in happiness economics and interpersonal relations. *International Review of Economics*, *57*(2), 233-253. https://doi.org/10.1007/s12232-010-0096-3

Nogueira, J., Varela, C., Batista, M., & Weiler, M. (2017). Creativity and innovation for corporate happiness management. *Brazilian Journal of Science and Technology*, *4*(1), 1-20. https://doi.org/10.1186/s40552-017-0038-7

Núñez-Barriopedro, E., Ravina-Ripoll, R. & Tobar-Pesantez, L. (2019). Creativity: An Intangible Capital Generating Competitive Quality in the Spanish Advertising Industry. *Academy of Accounting and Financial Studies Journal*, *23*(2), 1-9. http://hdl.handle.net/10017/38016

Oishi, S. (2012). *The psychological wealth of nations: Do happy people make a happy society*? Massachusetts, Estados Unidos: Wiley-Blackwell.

ONU. (2011). *Happiness should have greater role in development policy – UN Member States*, 19 de Julio. Recuperado de https://bit.ly/2MAwgKf

Oswald, A. J., Proto, E., & Sgroi, D. (2015). Happiness and Productivity. *Journal of Labor Economics*, *33*(4), 789-822. https://doi.org/10.1086/681096

Pacek, A., & Radcliff, B. (2008). Assessing the welfare state: The politics of happiness. *Perspectives on Politics*, *6*(2),. 267-277. http://dx.doi.org/10.1017/S1537592708080602

Popkova, E. G., Ragulina, Y. V., & Bogoviz, A. V. (Eds.) (2019). *Industry 4.0: Industrial revolution of the 21st Century*. Chan, Switzerland: Springer International Publishing.

Prause, M., & Weigand, J. (2016). Industry 4.0 and object-oriented development: incremental and architectural change. *Journal of Technological Management Innovation*, *11*(2), 104-110. http://dx.doi.org/10.4067/S0718-27242016000200010

Pryce-Jones, J., & Lindsay, J. (2014). What happiness at work is and how to use it. *Industrial and Commercial Training*, *46*(3), 130-134. https://doi.org/10.1108/ICT-10-2013-0072

Ravina-Ripoll, R. (Coord). (2017). *Entornos Creativos, Empleados Felices. Una ventaja competitiva en la gestión empresarial y territorial.* Albacete, España: Uno Editorial.

Ravina-Ripoll, R., Villena-Manzanares, F., & Gutiérrez-Montoya, G. A. (2017). Una aproximación teórica para mejorar los resultados de innovación en las empresas desde la perspectiva del "Happiness Management". *RETOS. Revista de Ciencias de la Administración y Economía, 7*(14), 113-129. http://dx.doi.org/10.17163/ret.n14.2017.06

Ravina-Ripoll, R., Núñez-Barriopedro, E., Galiano-Coronil A., & Tobar-Pesantez, L. (2019). Towards A Happy, Creative and Social Higher Education Instituion: The Case of Non-Profit Marketing And Business Creation Subjects At The University Of Cadiz. *Journal of Entrepreneurship Education, 22*(1), 1-8. http://hdl.handle.net/10017/38017

Ravina-Ripoll, R., Tobar-Pesantez, L., & Galiano-Coronil, A. (Coords). (2018). *Claves para un desarrollo sostenible La creatividad y el happiness management* como portafolio de la innovación tecnológica, empresarial y marketing social. Granada, España: Editorial Comares.

Ravina-Ripoll, R., Tobar-Pesantez, L., & Marchena-Domínguez, J. (2019). *A lighthouse for social wellbeing, creativity and sustainability: Happiness Management.* Berna, Suiza: Peter Lang.

Ravina-Ripoll, R., Tobar-Pesantez, L., & Núñez-Barriopedro, E. (Coords.) (2019). *Happiness Management and Creativity in the XXI century: Intangible Capitals as a source of innovation, competitiveness and sustainable development.* Granada, España: Editorial Comares.

Rego, A., Ribeiro, N., & Cunha, M. P. (2010). Perceptions of organizational virtuousness and happiness as predictor of organizational citizenship behaviors. *Journal of Bussiness Ethics, 93*(2), 215-235. http://dx.doi.org/10.1007/s10551-009-0197-7

Rodríguez-Muñoz, A., & Sanz-Vergel, A. I. (2013). Happiness and well-being at work: A special issue introduction. *Revista de Psicología del Trabajo y de las Organizaciones, 29*(3), 95-97. https://doi.org/10.5093/tr2013a14

Rojas, M. (2009). Economía de la Felicidad: Hallazgos relevantes respecto al ingreso y el bienestar. *El Trimestre Económico, 76*(303), 537-573. http://dx.doi.org/10.20430/ete.v76i303.489

Rojas, M. (Ed.) (2016). *Handbook of happiness research in Latin America.* Dordrecht, Holanda: Springer.

Romero-Rodríguez, L.M., & Castillo-Abdul, B. (2019). Comunicación para la motivación. Claves de la asertividad y del trabajo en equipo en las organizaciones. En R. Ravina-Ripoll, L.B. Tobar Pesántez y E. Nuñez Barriopedro (Coords.), *Happiness Management and Creativity in the XXI Century. Intangible capitals as a source of innovation, competitiveness and sustainable development,* (pp. 41-54). Granada, España: Editorial Comares.

Salas-Vallina, A., Alegre, J., & Guerrero, R. F. (2018). Happiness at work in knowledge-intensive contexts: Opening the research agenda. *European Research on Management and Business Economics, 24*(3), 147-159. http://dx.doi.org/10.1016/j.iedeen.2018.05.003

Salas-Vallina, A., López-Cabrales, Á., Alegre, J., & Fernández, R. (2017). On the road to happiness at work (HAW) Transformational leadership and organizational learning capability as drivers of HAW in a healthcare context. *Personnel Review, 46*(2), 314-338. https://doi.org/10.1108/PR-06-2015-0186

Sánchez-Vázquez, J. F. (2018). El significado vital en las organizaciones: aportaciones de la economía de la felicidad. *CAURIENSIA, 13,* 143-156. https://doi.org/10.17398/2340-4256.13.143

Saucedo-Martínez, J. A., Pérez-Lara, M., Marmolejo-Saucedo, J. A., Salais-Fierro, T. E., & Vasant, P. (2018). Industry 4.0 framework for management and operations: a review. *Journal of Ambient Intelligence and Humanized Computing, 9*(3), 789-801. https://doi.org/10.1007/s12652-017-0533-1

Seligman, M. (2016). *Florecer: La nueva psicología positiva y la búsqueda del bienestar.* México: Editorial Océano.

Smit, J., Kreutzer, S., Moeller, C., & Carlberg, M. (2016). *Industry 4.0 a study for the European Parliament.* Recuperado de https://bit.ly/1QRykFi

Retos, 9(18), 2019

Sommer, L, (2015). Industrial Revolution-Industry 4.0: Are German manufacturing SMEs the first victims of this revolution? *Journal of Industrial Engineering and Management*, *8*(5), 1512-1532. http://dx.doi.org/10.3926/jiem.1470

Valdivieso, J., & Capella, A. (2009). Animales productivos. El papel económico de los animales no humanos y los retos morales que implica. *Revista de Bioética y Derecho*, *17*, 50-57. https://doi.org/10.1344/rbd2009.17.7773

Vázquez, C., & Hervás, G. (2009). *La ciencia del bienestar. Fundamentos de una psicología positiva*. Madrid, España: Alianza Editorial.

Vázquez, S. (2012). *La felicidad en el trabajo y en la vida*. Madrid, España: Actualia Editorial.

Gaitán, I., Bretón, D., Choi, H., Mahecha, C., & Arteaga, M. (2015). Todo es cuestión de actitud. Gestión de la felicidad. *Harvard Deusto Business Review*, *244*, 6-17.

Villena-Manzanares, F., & Galiano-Coronil, A. (2017). El desarrollo urbano sostenible y sus implicaciones para las empresas y los territorios. *Revista de Estudios Empresariales*, *1*, 5-15. https://doi.org/10.17561/ree.v0i1.3185

Wacker, J. G. (1998). A definition of theory: research guidelines for different theory-building research methods in operations management. *Journal of operations management*, *16*(4), 361-385. https://doi.org/10.1016/S0272-6963(98)00019-9

Wang, Y. D., & Yang, C. (2016). How appealing are monetary rewards in the workplace? A study of ethical leadership, love of money, happiness, and turnover intention. *Social Indicators Research*, *129*(3), 1277-1290. http://dx.doi.org/10.1007/s11205-015-1160-x

Will M. Bertrand, J., & Fransoo, J. C. (2002). Operations management research methodologies using quantitative modeling. *International Journal of Operations & Production Management*, *22*(2), 241-264. https://doi.org/10.1108/01443570210414338

Yuan, L. (2015). The Happier One Is, the More Creative One Becomes: An Investigation on Inspirational Positive Emotions from Both Subjective Well-Being and Satisfaction at Work. *Psychology*, *6*(3), 201-209. http://dx.doi.org/10.4236/psych.2015.63019

Zelenski, J. M., Murphy, S. A., & Jenkins, D. A. (2008). The happy-productive worker thesis revisited. *Journal of Happiness Studies*, *9*(4), 521-537. http://dx.doi.org/10.1007/s10902-008-9087-4

Zweig, J.S. (2015). ¿Are women happier than man? Evidence from the Gallup World Poll. *Journal of Happiness Studies*, *16* (2), 515-541. http://dx.doi.org/10.1007/s10902-014-9521-8

Retos, *9*(18), 2019
Revista de Ciencias de la Administración y Economía | ISSN impreso: 1390-6291; ISSN electrónico: 1390-8618
www.retos.ups.edu.ec

Quality Management as a key strategy for happiness in federation-based sport

Gestión de calidad como estrategia clave de la felicidad en el deporte federado

Cristina Loranca Valle is a PhD student of Commercialization and Marketing Research at Universidad de Alcalá (España) (cristina.loranca@uah.es) (https://orcid.org/0000-0002-1561-1221)

Dr. Pedro Cuesta Valiño is a professor/researcher of Commercialization and Marketing Research at Universidad de Alcalá (España) (pedro.cuesta@uah.es) (https://orcid.org/0000-0001-9521-333X)

Dra. Estela Núñez-Barriopedro is Vice-Dean of quality, promotion and communication, is a professor/researcher at Universidad de Alcalá (España) (estela.nunezb@uah.es) (http://orcid.org/0000-0002-2292-8147)

Abstract

The relationship between sport and happiness has been proven on many occasions. On this way, physical sport gives sportspeople positive feelings which are all related to the term happiness. Therefore, based on the fact that taking part in sports increases happiness, the main objective of this study is to determine which variables have the greatest influence on sportspeople's happiness, focusing specifically on federation members. One of the new developments in this study is that the results may help members of the Governing Boards of these federations to take better decisions and contribute more to the happiness of sportspeople who are federation members. The main variables mentioned in the literature as having a positive influence on happiness are perceived quality and satisfaction. There are also studies that confirm the influence of trust and social relationships on happiness. The empirical research has used primary data from a survey of 601 members of the Spanish regional federations, specifically in karate. The results confirm all the hypotheses advances in this study. Thus, as indicated by the literature reviewed, the four variables studied (perceived quality and satisfaction, trust and social relationships) all exert significant positive influence on levels of happiness.

Resumen

La relación entre el deporte y la felicidad es un hecho probado en multitud de ocasiones. El ejercicio físico aporta al deportista diversas sensaciones positivas, todas ellas muy relacionadas con el término felicidad. Por tanto, partiendo del hecho de que la práctica deportiva produce felicidad, el objetivo de este estudio es de averiguar qué variables influyen principalmente en la felicidad del deportista y en concreto, del deportista federado. Una de las novedades de este estudio es que los resultados podrían ayudar a los miembros de las juntas directivas de las federaciones a tomar buenas decisiones y poder contribuir en mayor forma a la felicidad del deportista federado. Las principales variables que encontramos en la literatura que influyen positivamente en la felicidad son la calidad percibida y la satisfacción. A su vez encontramos estudios que confirman la influencia de la confianza y las relaciones sociales sobre la felicidad. El estudio empírico se ha realizado a través de datos primarios mediante encuesta sobre una muestra de 601 individuos federados en las distintas federaciones autonómicas de España, concretamente en la modalidad deportiva de kárate. Los resultados obtenidos confirman todas las hipótesis planteadas en este estudio por lo que como indicaba la literatura revisada las cuatro variables analizadas (la calidad percibida, la satisfacción, la confianza y las relaciones sociales) influyen de forma significativa y positivamente en la felicidad.

Keywords | palabras clave

Happiness, satisfaction, perceived quality, trust, sport, karate, federations, social relationships.
Felicidad, satisfacción, calidad percibida, confianza, deporte, kárate, federaciones, relaciones sociales.

Suggested citation: Loranca Valle, C., Cuesta Valiño, P. and Núñez-Barriopedro, E. (2019). Quality Management as a key strategy for happiness in federation-based sport. *Retos Journal of Administration Sciences and Economics, 9*(18), 195-210. https://doi.org/10.17163/ret.n18.2019.02

Received: 05/22/19 | Reviewed: 06/22/19 | Approved: 07/14/19 | Published: 10/01/19

Retos, 9(18), 2019

1. Introduction

Happiness is something people have been looking for since the beginning of time. Achieving the goals is one of the reasons why people experience happiness (Núñez-Barriopedro, Ruiz-López, & Ravina Ripoll, 2018). In this sense, achieving sporting goals can help achieve happiness, so it follows that sport and happiness are closely linked. Sports practice is associated with health. In fact, lack of physical exercise and sedentary is linked to some diseases and disorders (Álvarez, 2007). This is one of the reasons governments promote sport to improve health, fight obesity, curb crime, and provide values to youth (Huang & Humphreys, 2012; Hur, Ko, & Valacich, 2011). Specifically, in Spain [...] "The development of high-level, high-performance sport resides in the Spanish Sports Federations with the collaborations of the Autonomous Communities. It is mainly funded by the State and aims to raise the sporting level of Spain internationally" (Higher Sports Council, 2019, s/p).

The purpose of a sports federation is to promote sport (Supreme Council for Sports in Spain. Ministry of Education, Culture and Sports, 2007), and although they are private organizations, the Public Administration is the one that name and recognize them as an organ for the development of high-level, high-performance sport. Thus, the Administration provides the main economic endowments to these organizations with the aim of raising the sporting level of Spain internationally (Supreme Council for Sports in Spain. Ministry of Education, Culture and Sports, 2007).

Some research has shown that sports consumption as a spectator (Hallmann, Breuer & Ku, 2013; Jang, Ko, Wann & Kim, 2017), sports holidays, attendance at sporting events (Nicolao, Irwin & Goodman, 2009), or participation in events (Huang & Humphreys, 2012; Theodorakis, Kaplanidou & Karabaxoglou, 2015) are closely linked to happiness and increase happiness levels.

Despite the growing public interest in physical activity and sport, there is no perceived proportional growth of members of non-profit sports organizations (Wemmer & Koenigstorfer, 2016). Although over the last 10 years the number of federated licences has remained in a steady number, growth has continued over the last 2 years, but if the timeline is expanded the variation is barely noticeable. Lucrative sports organizations have entered the market with great force and are attracting more and more consumers. However, their nonprofit peers are not standing up for this increase in competition (Smith & Stewart, 2010).

In this context, this paper aims to explore the causes of little variation in licensing over the past 10 years. While it is true that federations are non-profit organizations, their objective is the promotion and dissemination of sport, and this means that one of their main interests is to make their federated happy through sport. Therefore, this work can provide knowledge especially for the members of the boards of the federations in order to know what variables can influence the happiness of their federateds so that they have the opportunity to manage them in the best possible way and, thus, achieve their purpose and mission.

p-ISSN: 1390-6291; e-ISSN: 1390-8618

1.1. State-of-the-art

1.1.1. Happiness

Happiness brings a number of sensations, which any mentally healthy person would like to keep as long as possible (Ravina-Ripoll *et al.*, 2019). Some authors define happiness as the positive psychological state derived from a good, pleasant and satisfying experience (Bolifa *et al.*, 2017; Jang *et al.*, 2017). There are two perspectives from which happiness can be analyzed: one alludes to a specific moment in time and the other to a constant duration. The first is the consequence of a particular positive situation or experience, while the second is a general positive psychological state that is cumulative over time (Seligman & Csikszentmihalyi, 2014).

According to numerous studies, happiness and loyalty are positively related. Aksoy *et al.* (2015) empirically confirms that concrete loyalty and abstract loyalty influence happiness. In fact, the optimal balance between them will help maximize overall happiness. Just because the customer is satisfied does not mean that they are happy, but happiness must be sought to bring the customer to loyalty (Khan & Hussain, 2013), rather than focusing on their satisfaction, which is what has been pursued in the last 50 years (Easterlin, 2001).

The quality of life and happiness has been linked many times, and not only that, but when a large part of the population is happy, it will imply that the quality of life of that population is good (Barriopedro, Ripoll, and Tello, 2018a). Happy people tend to have prosperous lives, both externally and internally (Nelson *et al.*, 2015). In the literature on happiness, some researchers argue that a certain person's happiness will depend on a number of factors related to positive feelings, such as social relationships, work and unemployment, leisure, money, class, culture, personality, joy, satisfaction with life, age, sex, health, among others. All this means that the general circumstances of life have an impact on happiness -as a constant construct- (see gr. Argyle, 1994; Barriopedro, Ripoll, and Tello, 2018b; Ravina-Ripoll *et al.*, 2019).

1.1.2. Quality perceived

The most defended definition of perceived quality by the authors refers to discrepancies between consumer perceptions of a particular good or service offered and expectations about such service (v.gr. Hennig-Thurau, Gwinner, & Gremler, 2002; Cuesta Valiño, Gutiérrez Rodríguez, & Núñez-Barriopedro, 2019). In equal perceptions, the higher the consumer expectations, the lower the perceived quality. The conceptual meaning of quality has two dimensions: one mechanical and one humanistic. The mechanical dimension refers to the objective characteristics of the transaction, while the humanistic dimension of quality is relative to the subjective response of people to a certain case and depends on the judgment of each person (Gallarza, et al., 2017).

For the specific case of sports federations, as the product offered are services, customers perceive the exchange relationship with a higher risk. This is due to the main characteristics of the services: intangibility and heterogeneity, reason for which credibility is one of the most important attributes to the consumer when assessing perceived quality (Javalgi & Moberg, 1997).

Retos, 9(18), 2019

1.1.3. Satisfaction

Satisfaction can be conceptualized in two ways: satisfaction of a specific transaction and cumulative satisfaction (Boulding *et al.*, 1993), the latter being the general assessment based on the totality of purchases and consumption experiences of a particular good or service (Anderson & Mansi, 2009).

Other authors define it as the customer's emotional or sentimental reaction to perceived differences between job execution and expectations. Although this definition could lead to confusion because of its similarities to the definition of 'perceived quality', the fact is that the two variables are different being the main difference that satisfaction is a type of attitude, long-term assessment; however, perceived quality is the measure of a specific transaction. Núñez-Barriopedro, Ruiz-López, & Ravina Ripoll (2018) relate satisfaction to providing what is being sought to the point that this can be achieved.

1.1.4. Trust

Trust is one of the basic ingredients to succeed in relationships (Cuesta Valiño, Gutiérrez Rodríguez, & Núñez-Barriopedro, 2019), this being the belief of one of the parties that the actions that the other party executes would be satisfying (Anderson & Mansi, 2009).

For its part, trust in an organization is given by the consumer safety in the quality and integrity of the service offered (Hennig-Thurau, Langer, & Hansen, 2001). In the confidence of the relationships between the consumer and companies, the psychological benefit of safety and trust is more relevant than the special relationship or social benefits derived from this relationship (Eaton, Gwinner, Larson & Swanson, 2015). Trust is the involvement in a process that has been well thought out and carefully considered, while affection for a brand is rather spontaneous, more immediate and less reasoned. In this sense, trust can have an affective and cognitive dimension (Johnson & Grayson, 2005).

1.1.5. Relationship between perceived quality and happiness

Improving the quality of service in the purchase of sporting events is an opportunity to positively improve the consumer psychology (Anderson & Mansi, 2009). There are several authors in the literature who demonstrate and confirm the relationship between perceived quality or quality of perceived service and happiness (v.gr. Gong & Yi, 2018; Sato, Jordan & Funk, 2014; Theodorakis *et al.*, 2015).

In their study, Theodorakis *et al.* (2015) try to find out the relationship and the influence of perceived quality and satisfaction on the happiness that the consumption of sporting events can produce. To this end, they build on the statements of Sato, Jordan and Funk (2014), who found that "physically active leisure can improve the quality of life of participants by providing positive experiences through participation in events" (p. 298). As far as sporting events are concerned, Theodorakis *et al.* (2015, op. cit.) mention three types of quality of service: the quality of the results, the quality of interaction and the quality of the physical environment, being the variable of quality of the results the one that influences happiness.

p-ISSN: 1390-6291; e-ISSN: 1390-8618

Satisfaction is a variable that is also closely related to perceived quality. It sometimes acts as a mediator variable between it and happiness, as in Gong and Yi's study (2018), in which they measure different perceptions aspects about the overall quality of service such as the environment, development or delivery of the service. These three variables influence satisfaction, which in turn influences loyalty and happiness.

Taking into account the contributions of the revised literature on perceived quality relationships and happiness, the following hypotheses are raised:

H1: Perceived quality positively influences satisfaction

H2: Perceived quality positively influences happiness

1.1.6. Relationship between satisfaction and happiness

Improving the quality of service in the purchase of sporting events is an opportunity to positively improve consumer psychology (Anderson & Mansi, 2009). Happiness and satisfaction with life are two different concepts, but Haller and Hadler (2006) found that macrosocial factors, such as a nation's economic wealth, the distribution of incomes, the state extent of the Welfare, and political freedom influences both happiness and satisfaction. In this sense, when a service occurs repeatedly over the time, perceptions derived from these encounters form the basis of consumer satisfaction and in turn, leading to the consumer happiness (Dagger & Sweeney, 2006).

On the other hand, customer satisfaction extends to any time in life, leading to happiness (Sweeney, Danaher & Mccoll-Kennedy, 2015). This could be related with the bottom-up theory of customer happiness, which states that customer satisfaction, derived from a specific service, extends upwards to the overall satisfaction of the service, and this, in turn extends to happiness (Gong & Yi, 2018). The conclusions obtained from the work analyzed on satisfaction and happiness allowed raising the following hypothesis:

H3: Satisfaction positively influences happiness.

1.1.7. Relationship between confidence and happiness

As observed before improving the quality of service in the purchase of sporting events is an opportunity to positively improve the consumer psychology (Núñez-Barriopedro, Ravina Ripoll, Tobar Pesantez, 2019). The literature that analyzes the relationship between trust and happiness has been studied mainly with data aggregated at the regional or national level (Barra, Pressgrove & Torres, 2018; Bartolini & Mikucka, 2017; Tokuda, Fujii & Inoguchi, 2010), looking for a geographic perspective.

In their research, Bartolini & Mikucka (2017) discuss the relationship between social trust and subjective well-being or happiness in Eastern Europe. For them, trust does not influence happiness in the short term; however, in the medium-long term, the influence of confidence over happiness is equal to the influence of economic growth on happiness. Another study on the relationship between trust and happiness in eastern Japan argues that the relationship between the two variables depends on the context in which they are analyzed (Barra *et al.*, 2018).

Trust can play a very important role in reducing possible negative influences on happiness that can arise when laws do not work well (Barra e*t al.*, 2018). People living in

Retos, 9(18), 2019

countries with higher levels of aggregate social confidence are more likely to be happy than those living in countries with a poorer level of confidence (Tokuda *et al.*, 2010).

Based on the lines of thought of the revised literature on trust and happiness, the following hypothesis was created:

H4: Trust positively influences happiness

1.1.8. Relationship between social relationships and happiness

Happiness and satisfaction cannot be obtained if social relations or society are set aside (Haller & Hadler, 2006). People have always thought about the structure and social institutions in view of the possibility of achieving a long life and happiness (Boudon, 2002). Haller and Hadler (2006) in their study demonstrate their hypothesis that certain social relationships under some conditions may produce happiness or unhappiness.

Some sports studies show that social relationships influence the happiness of the sports spectator through the identification with the team as a mediating variable: relationships with other fans enhance identification with the team, and the team in turn influences happiness (Jang *et al.*, 2017), as individuals experience greater happiness by participating in activities that facilitate positive and high-quality social connections with others (Haller & Hadler, 2006; Jang *et al.*, 2017). There are several authors who agree that social relations and happiness are intimately related (Romero-Rodríguez & Castillo-Abdul, 2019).

Some authors who investigate how friendship influences happiness discuss various aspects of friendship, such as quality and conflict (v.gr. Demir & Urberg, 2004; Demir & Weitekamp, 2007). Demir and Weitekamp (2007) empirically demonstrate that these two aspects of friendship influence happiness by taking into account two other variables: gender and personality. The following hypothesis is raised by taking into account these lines of thought:

H5: Social relationships positively influence the happiness of exercising.

2. Materials and methods

2.1. Sample design

The study was carried out on the population of Spanish sports federations. Sports federations in Spain are organizations that important characteristics since they are private non-profit organizations, although they are collaborators of the Public Administration and sometimes they act as agents of the Public Administration, carrying out the roles of the Public Administration. Sports federations are mixed organizations, having a private and public roleat the same time. The main purpose of a sports federation is to promote sport and although they are private organizations, it is the Public Administration that authorizes them as an organ for the development of high-level, high-performance sport. In this sense, the Administration provides the main economic endowments to these organizations with the aim of raising the sport level of Spain internationally. In Spain there are a total of 66 federations, totaling

p-ISSN: 1390-6291; e-ISSN: 1390-8618

3.761.498 sports licenses in 2017, while by 2008 the number of federation licenses reached 3,394,384 individuals. It can be observed that there has been an increase in these ten years (367.114), however, the growth line has remained constant over the time, especially considering the population variation in Spain.

The information collected has been obtained from a sample of 601 individuals of which 71% are men and 29% women, all of them federated from the karate sport. In the sample there are individuals of all ages, being the most relevant group the one aging between 45 and 64 years, and in addition most of them have been federated for more than 20 years. Responses were obtained from 11 regional federations, out of a total of 19

Using Google Forms, the self-administered questionnaire was sent to several Spanish regional karate federations for the federated to pass to other federated parties, via a link, using the snowball technique. The Federateds completed the survey during March and April 2019.

3. Analysis and results

According to the ji squared test with 16 degrees of freedom practiced on the sample, it is confirmed for all indicators of the variable quality perceived its relationship with happiness. In addition, in Table 1 is presented the results of the Snedecor F test, which confirms that there are significant differences between the different groups, since the p value is <0.05.

Table 1. Average values of perceived quality indicators according to the happiness degree of the federated

Denomination	Total sample	Participating in the federation's activities makes me happy					F of Snedecor
		Completely Disagree	Disagree	Indifference	Agree	Fully Agree	
The activities of my federation (championships, courses, trainings, etc.) are carried out efficiently.	3.8854	1.9556	2.9149	3.4919	4.1392	4.5044	F(4.597) = 100.8089
	n = 602	n = 45	n = 47	n = 124	n = 158	n = 228	p = 0.0000
My federation provides a pleasant environment to carry out the activities it organizes.	3.9717	1.8444	2.8723	3.6129	4.2468	4.6256	F(4.596) = 141.7542
	n = 601	n = 45	n = 47	n = 124	n = 158	n = 227	p = 0.0000

Retos, 9(18), 2019

Denomination	Total sample	Participating in the federation's activities makes me happy					F of Snedecor
		Completely Disagree	Disagree	Indifference	Agree	Fully Agree	
I understand that my federation charges a fair price for the activities in which I participate.	3.9214	2.2045	3	3.3852	4.1329	4.5859	F(4.593) = 82.3918
	n = 598	n = 44	n = 47	n = 122	n = 158	n = 227	p = 0.0000
I am effectively assisted with my inquiries by the employees of my federation.	4.0266	2.2889	3.0851	3.5691	4.2025	4.6886	F(4.596) = 93.4056
	n = 601	n = 45	n = 47	n = 123	n = 158	n = 228	p = 0.0000
The services and activities offered by my federation are really good							

In addition, a test has been carried out to analyze the unidirectional variance between happiness and perceived quality, confirming this approach by rejecting the independence hypothesis of variables, since the result obtained from the F of Snedecor for 4 and 594 degrees of freedom was 155.2908, with an explained variance rate of more than 50%, specifically 51.12%. In Table 2 can be observed the sum of squares for the variables "Participating in the activities of my federation makes me happy" and "The services and activities offered by my federation are really good":

Table 2. Variance analysis of the indicators "Participating in the activities of my federation makes me happy" and "The services and activities offered by my federation are really good"

Groups	Number of Cases	Arithmetic mean	Standard deviation	Sum of squares
Total sample	**599**	**3.7963**	**1.232**	**909.1519**
Variable relationship categories				
Complete Disagreement	26	1.5	0.9707	24.5
Disagreement	31	2.0968	1.2009	44.7097
Indifference	115	2.9826	1.1032	139.9652
Agree	178	3.8258	0.7989	113.6011
Fully Agree	249	4.6024	0.6989	121.6386
			Sum:	444.4146

It can also be mentioned that there is a relationship between all indicators of perceived quality and those of satisfaction, since in all ji squared tests the probability turned out to be 0.000. Likewise, the Snedecor F test indicates that there are significant differences in the mean values of the different cross-tabulations between the indicators of perceived quality and satisfaction.

Both tests, ji squared with 16 degrees of freedom and F of Snedecor have been performed to measure the relationship between the satisfaction of the federated and their happiness. The first test confirms that there is a relationship between the two variables, and the second that there are significant differences between the mean values of the different groups, as can be seen in Table 3.

Table 3. Average values of satisfaction indicators according to the degree of happiness of the federated

Denomination	Total sample	Participating in the federation's activities makes me happy.					F of Snedecor
		Completely Disagree	Disagree	Indifference	Agree	Fully Agree	
I think it is good for me to be federated.	4.5717	3.3556	4.1277	4.3468	4.6815	4.9515	F(4.595) = 61.9795
	n = 600	n = 45	n = 47	n = 124	n = 157	n = 227	p = 0.0000

Denomination	Total sample	Participating in the federation's activities makes me happy.					F of Snedecor
		Completely Disagree	Disagree	Indifference	Agree	Fully Agree	
I am glad to be federated in my federation.	4.1847	2	3.383	3.9113	4.3861	4.793	F(4.596) = 129.0765
	n = 601	n = 45	n = 47	n = 124	n = 158	n = 227	p = 0.0000
I am satisfied with the activities/services offered by my federation.	3.8965	1.8372	2.9362	3.3871	4.0886	4.63	F(4.594) = 130.8788
	n = 599	n = 43	n = 47	n = 124	n = 158	n = 227	p = 0.0000

If carrying out an analysis of the one-way variance taking happiness as a dependent variable on the satisfaction of the athlete, the independence hypothesis is rejected, confirming the hypothesis raised in this study. In addition, the variance percentage explained is close to 50%, with the determination coefficient being 0.4629.

Similarly, looking at the results of both tests on the confidence and happiness variables, it is found that the two variables are related and, in addition, taking into account the results observed in Table 4, there are differences between the different groups of trust and happiness:

Table 4. Average values of confidence indicators according to the degree of happiness of the federated

Denomination	Total sample	Participating in the federation's activities makes me happy.					F of Snedecor
		Completely Disagree	Disagree	Indifference	Agree	Fully Agree	
My federation has behaved the way I expected in the activities in which I have participated.	3.9185	1.9556	2.8936	3.4634	4.1582	4.5965	F(4.596) = 120.7371
	n = 601	n = 45	n = 47	n = 123	n = 158	n = 228	p = 0.0000

Denomination	Total sample	Participating in the federation's activities makes me happy.					F of Snedecor
		Completely Disagree	Disagree	Indifference	Agree	Fully Agree	
My federation is committed to the federated	3.9068	1.7111	2.8298	3.4758	4.1338	4.6404	F(4.596) = 140.9658
	n = 601	n = 45	n = 47	n = 124	n = 157	n = 228	p = 0.0000
My federation is honest with all federated.	3.7663	1.5333	2.8511	3.377	3.8797	4.5286	F(4.594) = 113.3821
	n = 599	n = 45	n = 47	n = 122	n = 158	n = 227	p = 0.0000
My federation cares about the federated	3.7629	1.5778	2.7826	3.2358	3.9557	4.5463	F(4.594) = 130.2304
	n = 599	n = 45	n = 46	n = 123	n = 158	n = 227	p = 0.0000

In relation to the trust, the analysis of variance also rejects the independence hypothesis of this variable with respect to happiness, and also does so with a proportion of the explained variance of 42.85%.

Finally, the study variables related to social relationships are analyzed. The first variable is whether there is a personal relationship with other federated and the second if there are friends in the federation. The ji square tests clearly confirm that both variables are related to the variable “Participating in the activities of the federation makes me happy” and the variable “The Federated are happy when they participate in the activities of my federation.”

In Table 5 can be observed the analysis of variances of the happiness variable and the variable “to have a personal relationship with the federated”, and it can be observed that the different arithmetic means of each group increase as going from disagreement to agreement. In turn, the F Snedecor test with p-0.0000 confirms that there are significant differences in the arithmetic means of the different groups.

Retos, 9(18), 2019

Table 5. One-way variance analysis on the degree of happiness explained by the personal relationship with other federated

Groups	Number of Cases	Arithmetic mean	Standard deviation	Sum of squares
Total sample	**599**	**3.7997**	**1.2339**	**911.9599**
Variable Relationship categories				
Completely Disagree	34	2.4706	1.3982	66.4706
Disagree	44	2.9091	1.1245	55.6364
Indifference	141	3.3404	1.0969	169.6596
Agree	142	3.7465	1.1097	174.8732
Fully Agree	238	4.458	0.955	217.0798
			Sum:	683.7196

In Table 6 is observed the variance analysis that compares the degree of happiness of the federated with the friendship in the federation. The results are very similar to those in the table above, observing the main difference in the determination coefficient, which for table 5 represents a 0.25 while for table 6 a 0.18.

Table 6. One-way variance analysis on the degree of happiness explained by friendship in the federation

Groups	Number of Cases	Arithmetic mean	Standard deviation	Sum of squares
Total sample	**598**	**3.796**	**1.2303**	**905.1104**
Variable Relationship categories				
Completely Disagree	18	2.1111	1.2862	29.7778
Disagree	16	3.1875	1.1842	22.4375
Indifference	73	3.1644	1.1349	94.0274
Agree	127	3.3701	1.0781	147.6063
Fully Agree	364	4.1813	1.1094	448.033
			Sum:	741.8819

Discussion and conclusions

The results of this study are conclusive, as all the evidence carried out on the sample obtained leads to the confirmation of the hypotheses raised in the preceding paragraphs.

In analyzing the variable of perceived quality is obtained that the perceived quality influences the happiness of the Spanish federated athlete using satisfaction as a mediator variable both directly and indirectly (*H1*). Therefore, in this case, the empirical study would confirm the revised works on the theory of perceived quality and happiness (Gong & Yi, 2018; Sato *et al.*, 2014; Theodorakis *et al.*, 2015).

The results also indicate that satisfaction and happiness have a strong relationship and not only that, but that the hypothesis (H2) raised after the bibliographic review is confirmed, having a powerful influence on the happiness of the federated (*H3*), being in agreement with the authors reviewed (Dagger & Sweeney, 2006; Gong & Yi, 2018; Haller & Hadler, 2006; Sweeney *et al.*, 2015).

With regard to the variable confidence, although the study of its influence on happiness is not as broad in the literature as that of the previous two variables, there are several authors who argue that both variables are related and that happiness is affected by the degree of trust in the organization (Barra *et al.*, 2018; Bartolini & Mikucka, 2017; Tokuda *et al.*, 2010), and the results of the study analyzed agree with these authors, since the hypothesis raised about the positive influence of confidence on happiness is clearly confirmed (*H4*).

The last hypothesis raised (*H5*), which studies the relationship between social relations and the happiness that sports activity has is conclusive, since all statisticians clearly confirm the hypothesis that social relations influence in the happiness derived from sport. Therefore, it is clear that for Spanish karate federated, having a personal relationship with their peers or having a friendship provide them more happiness. This corresponds to the information revised in the literature, since for many authors social relations in general (Boudon, 2002; Gilbert, 2005; Haller & Hadler, 2006) as friendship (Jang *et al.*, 2017) influence people's happiness.

For the managers of the federations, the recommendations following the results derived from this research are to maximize as much as possible the quality of their services since this variable has a greater explanation than the rest of the variables, in addition to the influence not only on happiness but the satisfaction of the federated (Gong & Yi, 2018). This without forgetting the importance of the variable confidence, since the existence of trust on the part of the federation helps to maintain happiness in times when there is not the best service or the best results (Barra *et al.*, 2018; Tokuda *et al.*, 2010). Last but not least, it must be remembered that strengthening social relations among all people who participate in the federation, motivating friendship and companionship will be another key piece to keep the federated happy (Haller & Hadler, 2006).

Supports and financial support of the research
Entity: Universidad Politécnica Salesiana de Ecuador
Country: Ecuador
City: Cuenca

Entity: Regional Federation of Karate
Country: Spain
City: Madrid

References

Aksoy, L., Keiningham, T. L., Buoye, A., Larivière, B., Williams, L., & Wilson, I. (2015). Does loyalty span domains? Examining the relationship between consumer loyalty, other loyalties and happiness. *Journal of Business Research*, *68*(12), 2464-2476. https://doi.org/10.1016/j.jbusres.2015.06.033

Anderson, E. W., & Mansi, S. A. (2009). Does customer satisfaction matter to investors? Findings from the bond market. *Journal of Marketing Research*, *46*(5), 703-714. https://doi.org/10.1509/jmkr.46.5.703

Argyle, M. (1994). *The Psychology of Happiness*. London, UK: Routledge. https://doi.org/10.4324/9781315812212

Barra, C., Pressgrove, G., & Torres, E. (2018). Trust and commitment in the formation of donor loyalty. *The Service Industries Journal*, *38*(5-6), 360-377. https://doi.org/10.1080/02642069.2017.1405937

Barriopedro, E. N., Ripoll, R. R., & Tello, E. A. (2018a). Análisis de la situación actual de la felicidad corporativa de los millennials en España, desde el barómetro del Centro de Investigaciones Sociológicas. *Revista Académica ECO* 18, 1-22.

Barriopedro, E. N., Ripoll, R. R., & Tello, E. A. (2018b). El impacto del crecimiento económico y empresarial en la felicidad social de la población española. En Hernández G. de Velazco, J. J., y Romero Marín, L. C., (Eds.), *Perspectivas en Ciencias Jurídicas y Políticas sobre la participación ciudadana, paz, bienestar y felicidad social siglo XXI* (pp. 190-210). Barranquilla, Colombia: Educosta SAS.

Bartolini, S., Mikucka, M., & Sarracino, F. (2017). Money, Trust and Happiness in Transition Countries: Evidence from Time Series. *Social Indicators Research*, *130*(1), 87-106. https://doi.org/10.1007/s11205-015-1130-3

Bolifa, F., Cuesta Valiño, P., Núñez-Barriopedro, E., & Penelas Leguía, A. (2018). Los adolescentes musulmanes frente a las oportunidades y las amenazas de la red. *Revista Internacional de Investigación en Comunicación aDResearch ESIC*, *18*(18), 60-79. https://doi.org/10.7263/adresic-018-04

Boudon, R. (2002). *Declin de la morale? Declin des valeurs?*. Quebec, Canadá: Editions Nota Bene. https://doi.org/10.7202/007464ar

Campillo Álvarez, J. E. (2007). *El mono obeso: la evolución humana y las enfermedades de la opulencia: diabetes, hipertensión, arteriosclerosis*. Barcelona, España: Crítica.

Consejo Superior de Deportes. (2019). Deporte de Alto Nivel y Alto Rendimiento, 01 de mayo de 2019, Recuperado de https://bit.ly/30rtnzM [Fecha de consulta: 01 de mayo de 2019].

Cuesta Valiño, P., Gutiérrez Rodríguez, P., & Núñez Barriopedro, E. (2019). The impact of corporate social responsibility on customer loyalty in hypermarkets : A new socially responsible strategy. *Corporate Social Responsability and Environmental Management*, *26*(4), pp. 761-769. https://doi.org/10.1002/csr.1718

Dagger, T. S., & Sweeney, J. C. (2006). The Effect of Service Evaluations on Behavioral Intentions and Quality of Life. *Journal of Service Research*, *9*(1), 3-18. https://doi.org/10.1177/1094670506289528

Demir, M., & Urberg, K. A. (2004). Friendship and Adjustment among Adolescents. *Journal of Experimental Child Psychology*, *88*(1), 68-82. https://doi.org/10.1016/j.jecp.2004.02.006

Demir, M., & Weitekamp, L. A. (2007). I am so happy cause today I found my friend: friendship and personality as predictors of happiness. *Journal of Happiness Studies*, *8*(2), 181-211. https://doi.org/10.1007/s10902-006-9012-7

Easterlin, R. A. (2001). Income and Happiness: Towards a Unified Theory. *The Economic Journal*, *111*(473), 465-484. https://doi.org/10.1111/1468-0297.00646

Eaton J., Gwinner K., Larson B., & Swanson S. (2015) The Role of Spectators' Attitudes Toward Commercialization on the Effectiveness of Corporate Sponsorhip of Sporting Events. En Moore, M., Moore, R. (Eds.), *New Meanings for Marketing in a New Millennium. Developments in Marketing Science: Proceedings of the Academy of Marketing Science* (pp 263-263). California, Estados Unidos: Springer Cham. https://doi.org/10.1007/978-3-319-11927-4_87

Gallarza, M. G., Arteaga, F., Del Chiappa, G., Gil-Saura, I., & Holbrook, M. B. (2017). A multidimensional service-value scale based on Holbrook's typology of customer value: bridging the gap between the concept and its measurement. *Journal of Service Management*, *28*(4), 724-762. https://doi.org/10.1108/JOSM-06-2016-0166

Gilbert, D. T. (2005). *Stumbling Happiness*. New York, Estados Unidos: Vintage Books.

Gong, T., & Yi, Y. (2018). The effect of service quality on customer satisfaction, loyalty, and happiness in five Asian countries. *Psychology & Marketing*, *35*(6), 427-442. https://doi.org/10.1002/mar.21096

Haller, M. A. X., & Hadler, M. (2006). How social relations and structures can produce happiness and unhappiness: an international comparative analysis. *Social Indicators Research*, *75*(2), 169-216. https://doi.org/10.1007/s11205-004-6297-y

Hallmann, K., Breuer, C., & Ku, B. (2013). Happiness, pride and elite sporting success: What population segments gain most from national athletic achievements? *Sport Management Review*, *16*(2), 226-235. https://doi.org/10.1016/j.smr.2012.07.001

Hennig-Thurau, T., Gwinner, K. P., & Gremler, D. D. (2002). Understanding relationship marketing outcomes: An integration of relational benefits and relationship quality. *Journal of Service Research*, *4*(3), 230-247. https://doi.org/10.1177%2F1094670502004003006

Hennig-Thurau, T., Langer, M. F., & Hansen, U. (2001). Modeling and managing student loyalty: An approach based on the concept of relationship quality. *Journal of Service Research*, *3*(4), 331-344. https://doi.org/10.1177%2F109467050134006

Huang, H., & Humphreys, B. R. (2012). Sports participation and happiness: Evidence from US microdata. *Journal of Economic Psychology*, *33*(4), 776-793. https://doi.org/10.1016/j.joep.2012.02.007

Hur, Y., Ko, Y. J., & Valacich, J. (2011). A Structural Model of the Relationships Between Sport Website Quality, E-Satisfaction, and E-Loyalty. *Journal of Sport Management*, *25*(5), 458-473. https://doi.org/10.1123/jsm.25.5.458

Jang, W., Ko, Y. J., Wann, D. L., & Kim, D. (2017). Does Spectatorship Increase Happiness? The Energy Perspective. *Journal of Sport Management*, *31*(4), 333-344. https://doi.org/10.1123/jsm.2016-0113

Javalgi, R. R. G., & Moberg, C. R. (1997). Service loyalty: implications for service providers. *Journal of Services Marketing*, *11*(3), 165-179. https://doi.org/10.1108/08876049710168663

Johnson, D., & Grayson, K. (2005). Cognitive and affective trust in service relationships. *Journal of Business Research*, *58*(4), 500-507. https://doi.org/10.1016/S0148-2963(03)00140-1

Khan, S., & Hussain, M. (2013). Determinants of Consumer Happiness and Its Role in Customer Loyalty. *International Review of Management and Business Research*, *2*(1), 11-19. https://dx.doi.org/10.2139/ssrn.2269677

Nelson, S. K., Della Porta, M. D., Jacobs Bao, K., Lee, H. C., Choi, I., & Lyubomirsky, S. (2015). 'It's up to you': Experimentally manipulated autonomy support for prosocial behavior improves well-being in two cultures over six weeks. *The Journal of Positive Psychology*, *10*(5), 463-476. https://doi.org/10.1080/17439760.2014.983959

Nicolao, L., Irwin, J. R., & Goodman, J. K. (2009). Happiness for sale: Do experiential purchases make consumers happier than material purchases? *Journal of Consumer Research*, *36*(2), 188-198. https://doi.org/10.1086/597049

Núñez-Barriopedro, E., Ruiz-López, J., & Ravina Ripoll, R. (2018). La creatividad en el sector turístico americano y europeo: Caso Croacia. *Retos: Revista de Ciencias de la Administración y Economía*, *8*(15), 83-99. http://dx.doi.org/10.17163/ret.n15.2018.06

Núñez-Barriopedro, E., Ravina Ripoll, R. & Tobar Pesántez, L.B. (2019). La creatividad: un capital intangible como generador de calidad competitiva en el sector publicitario español. *Academy of Accounting and Financial Studies Journal*, *23*(2).

Ravina-Ripoll, R., Núñez-Barriopedro, E., Galiano-Coronil, A., & Tobar-Pesántez, L. B. (2019). Towards a happy, creative and social higher education institution: the case of non-profit marketing and business creation subjects at the University of Cadiz. *Journal of Entrepreneurship Education*, *22*(1).

Romero-Rodriguez, L.M. & Castillo-Abdul, B (2019). Comunicación para la motivación. Claves de la asertividad y del trabajo en equipo en las organizaciones. En Ravina Ripoll, R., Tobar Pesántez, L.B., y Núñez Barriopedro, E. (Eds.) *Happiness management and creativity in the XXI century: Intangible capitals as a source of innovation, competitiveness and sustainable development* (pp. 41-54) Granada: España: Comares.

Sato, M., Jordan, J. S., & Funk, D. C. (2014). The role of physically active leisure for enhancing quality of life. *Leisure Sciences*, *36*(3), 293-313. https://doi.org/10.1080/01490400.2014.886912

Seligman, M. E., & Csikszentmihalyi, M. (2014). Positive psychology: An introduction. In *Flow and the foundations of positive psychology* (pp. 279-298). Dordrecht, Países Bajos: Springer. https://doi.org/10.1007/978-94-017-9088-8

Smith, A., & Stewart, B. (2010). The special features of sport: A critical revisit. *Sport Management Review*, *13*(1), 1-13. https://doi.org/10.1016/j.smr.2009.07.002

Sweeney, J. C., Danaher, T. S., & Mccoll-kennedy, J. R. (2015). Customer Effort in Value Cocreation Activities: Improving Quality of Life and Behavioral Intentions of Health Care Customers. *Journal of Service Research*, *18*(3), 318-335. https://doi.org/10.1177/1094670515572128

Theodorakis, N. D., Kaplanidou, K. (KIKI), & Karabaxoglou, I. (2015). Effect of Event Service Quality and Satisfaction on Happiness Among Runners of a Recurring Sport Event. *Leisure Sciences*, *37*(1), 87-107. https://doi.org/10.1080/01490400.2014.938846

Tokuda, Y., Fujii, S., & Inoguchi, T. (2010). Individual and Country-Level Effects of Social Trust on Happiness: The Asia Barometer Survey. *Journal of Applied Social Psychology*, *40*(10), 2574-2593. https://doi.org/10.1007/978-981-10-2305-7_8

Wemmer, F., & Koenigstorfer, J. (2016). Open Innovation in Nonprofit Sports Clubs. *International Journal of Voluntary and Nonprofit Organizations*, *27*(4), 1923-1949. https://doi.org/10.1007/s11266-015-9571-5

Retos, *9*(18), 2019
Revista de Ciencias de la Administración y Economía | ISSN impreso: 1390-6291; ISSN electrónico: 1390-8618
www.retos.ups.edu.ec

Social Marketing, welfare indicators and SDG. Analysis of the official account of the Spanish Government @desdelamoncloa

Marketing social, indicadores de bienestar y ODS. Análisis de la cuenta oficial del gobierno de España @desdelamoncloa

PhD. Araceli Galiano Coronil is professor and researcher at Universidad de Cádiz (España) (Araceli.galiano@uca.es) (https://orcid.org/0000-0003-2270-0924)

PhD. Manuela Ortega Gil is professor and researcher at Universidad de Cádiz (España) (manuela.ortega@uca.es) (https://orcid.org/0000-0001-7013-4133)

Abstract

Social media are communication tools that facilitate citizens' awareness of social problems. Through Twitter, governments can obtain useful information and make decisions to improve the well-being of the community and raise public awareness about how to achieve the Sustainable Development Goals (SDG). This work shows how Twitter and social marketing serve as economic policy instruments and aims to know if the messages published by the official twitter account of the Spanish Government (@desdelamoncloa) talk about the SDG and well-being, as well as to analyze the impact of publications with content on these objectives. The methodology of content analysis is used from a double approach, qualitative and quantitative, examining the messages published by @desdelamoncloa during 2018, as well as its relationship with the SDG and the Sustainable Wellbeing Indicator. The results reflect that the most commented SDG (those related to gender equality and inequalities) are not the ones that have obtained the greatest impact from the public (work and economic growth. Thus far, the highly valued posts have content about the SDG included in the element of the Indicator of Sustainable Welfare called Welfare, Economy and Sustainability. Likewise, the qualitative analysis reflects that the messages published are informative with content about government actions and also, the word welfare appears in a context where the values that Spain represents stands out.

Resumen

Las redes sociales son instrumentos de comunicación que facilitan la sensibilización y concienciación de los ciudadanos ante problemas sociales. A través de Twitter, los gobiernos pueden obtener información útil y tomar de decisiones para mejorar el bienestar de la comunidad y concienciar a los ciudadanos sobre el logro de los Objetivos de Desarrollo Sostenible (ODS). Este trabajo muestra cómo Twitter y el marketing social sirven como herramienta en la política económica y pretende conocer si en los mensajes publicados por la cuenta oficial del gobierno de España (@desdelamoncloa) se hablan sobre los ODS y el bienestar, además analiza el impacto de las publicaciones con contenido sobre dichos objetivos. Para ello se utiliza la metodología del análisis de contenido desde un doble enfoque, cualitativo y cuantitativo, examinando de forma descriptiva los mensajes publicados por @desdelamoncloa durante 2018, así como su relación con los ODS y el Indicador de Bienestar Sostenible. Los resultados reflejan que los ODS más comentados (los relacionados con la igualdad de género y las desigualdades) no son los que han obtenido un mayor impacto del público (trabajo y crecimiento económico), destacando los ODS incluidos en el elemento del Indicador de Bienestar Sostenible denominado «Bienestar, Economía y Sostenibilidad». Asimismo, el análisis cualitativo refleja que los mensajes publicados son de tipo informativo sobre actuaciones del gobierno y que el término «bienestar» aparece en un contexto donde se resalta los valores que representa España.

Keywords | palabras clave

Marketing, Social, indicators, wellbeing, development, sustainable, Twitter, government.
Marketing, social, indicadores, bienestar, desarrollo, sostenible, Twitter, gobierno.

Suggested citation: Galiano Coronil, A., y Ortega Gil, M. (2019). Social Marketing, welfare indicators and SDG. Analysis of the official account of the Spanish Government @desdelamoncloa. *Retos Journal of Administration Sciences and Economics*, *9*(18), 211-229. https://doi.org/10.17163/ret.n18.2019.03

Received: 05 /31/19 | Reviewed: 06/22/19 | Approved: 07/14/19 | Published: 10/01/19

Retos, 9(18), 2019

1. Introduction

Digital social networks (DSN) are a universe with a lot of information about preferences, likes, concerns, sensitivities, hobbies, etc., of their users. They have opened up new opportunities for organizations, businesses and governments to raise awareness on the citizens about problems and needs of today's society. In the same way, DSN can influence the decisions of users by applying social marketing techniques, since this discipline is intended to influence the voluntary change of the behavior of the target audience, aiming to improve their well-being and the society (Andreasen, 1994).

Since the advent of DSN, the social marketing paradigm has changed, and efforts are now focused on ensuring that users become promoters of social causes (Hestres, 2014). In relation to these causes, it is important to point out the new international agenda - Agenda 2030 - which details the objectives of the international community in the period 2016-2030 to eradicate poverty and promote sustainable and equal development. The 2030 Agenda revolves around five central axes: Planet, people, prosperity, peace and alliances. It consists of 169 targets and 17 Sustainable Development Goals (SDGs); among them is number 3, which refers to health and well-being.

Several studies have investigated the well-being and Sustainable Development Goals from several approaches. Froding et al. (2007) analyzed the aspects that influence a healthy and sustainable city, others such as the Asheim (2010); Durana *et al.* (2015); Costanza *et al.* (2016); Mikulcic, Klemes and Duic (2016); Momete (2017) and Di Maria (2019) studied the relationship between well-being and sustainable development. Costanza *et al.* (2016) relate SDG to a new welfare indicator, the 'SWI', composed of three elements: Net Economic Contribution, Natural Capital and Social Capital. The first represents the economic, the second represents sustainability and the environment and the third represents well-being.

However, there are few studies investigating the effectiveness of well-being and sustainable development from the point of view of social marketing in social media such as Twitter. Among them are the work of Menéndez, Saura and Álvarez (2018), which identifies factors and feelings related to the sustainable development of the environment and public health by analyzing the hashtag #WorldEnvironmentDay. Another approach is that of Sao and Lee (2018), who analyzed the relationship between government and social welfare using the Social Media Analysis methodology on Twitter.

For this reason, this work aims to advance the lines of happiness and the economics of well-being, integrating social marketing, the welfare economy and economic policy. Specifically, this work shows how the use of Twitter, from a social marketing approach, is an instrument for advancing the study of welfare and public policies related to compliance with the SDUs. To this end, the objectives are to: to know whether the messages published by @desdelamoncloa talk about the SDG and well-being, as well as to analyze the impact of publications containing content on these objectives and on the Indicator of Sustainable Well-being.

For this purpose, the 2 587 tweets of the official account of the Government of Spain (@desdelamoncloa) published during 2018 have been analyzed, using IBM

SPSS and Nvivo 12 plus data analysis software. The methodology used has been content analysis, from a qualitative and quantitative approach, through which tweets have been codified in accordance with the Sustainable Development Goals (SDG), identifying, on the one hand, the most valued by Twitter users, and on the other hand the terms most used by the account of the organization under study. It has also been hypothesized that the impact of the published messages (measured by the sum of the likes retweets) by @desdelamoncloa depends on the SDG used.

2. Theoretical framework

Since 1952 Wiebe wondered Why is solidarity not sold as soap is sold? the question of the ineffectiveness of sellers of social causes has been studied over time, giving rise to various nuances called social marketing. The starting point is in 1969 when Kotler and Levy (1969a) suggest a new dimension of marketing that extends to the field of ideas and non-profit organizations such as churches, public schools or administrations, since they also have products to offer to customers. It is therefore evident that the “essence of marketing lies in a general idea of value exchange rather than the small thesis of market transactions” (Kotler & Levy, 1969b, p. 57).

Later, Andreasen (1995) added that “social marketing” must be able to modify behaviors in search of a higher good (individual and social); this voluntarily change in attitude or behavior has characterized the discipline in recent years.

However, the paradigm of “social marketing” has evolved since the emergence and use of social networks as communication tools. From this perspective, Hestres (2014) proposed a strategy that changed the vision of social marketing. This consists on instead of spending most of the resources on education, it is in the change in attitude and behavior that organizations should focus their efforts to understand the use of DSN. This will give the public the possibility to offer interesting content and offer more visibility of information. In this way, organizations will be able to work on how to transform their supporters into vocal promoters of their causes (Kotler, 2011; Dooley *et al.*, 2012; Bernhardt, Mays & Hall, 2012).

In this sense Twitter has been thought as an ideal tool, forming an online public space where organizations can inform and receive feedback on their contributions, as it is an interactive platform in which users and organizations share information. Various studies support their suitability as a communication tool in the public sphere and in politics such as Golbeck and Hansen (2014); McGregor and Mourao (2016); Bain and Chaban (2017), among others. Recently many research has focused on health-related issues (Chen *et al.* 2017; Pershad *et al.*, 2018; Aboelmaged, 2018; Zhang & Ahmed, 2019; Colditz *et al.*, 2019; Chua *et al.*, 2019).

Several researchers have focused their studies on the relationships between happiness, welfare status and public policies (Gerdtham & Johannesson, 2001; Easterlin, 2010; Di Tella, Haisken & MacCulloch, 2010), while looking for indicators that measure the happiness or well-being of individuals, citizens and businesses. Others have focused on happiness from a business point of view (Fisher, 2010; Blanchflower & Oswald, 2011; Ravina, Villena & Gutiérrez, 2017; Frey & Stutzer, 2018), mainly to rationally allocate scarce resources among its different alternatives,

Retos, 9(18), 2019

distribute inputs and/or productive factors more efficiently and distribute goods and/or services more equitably among the communities. The theory of well-being rationally leads to minimizing levels of social inequality, and establishing a more efficient distribution of resources (Duarte & Jiménez, 2007).

Since the end of the last century, numerous indicators have been developed to measure development and well-being. Among the most commonly used are the Better Life Index (BLI), Human Development Index (HDI), Human Poverty Index (HPI), Unmet Basic Needs (UBN), Sustainable Development Index (SDI), Human Development Index Progress (DIP) and the Sustainable Welfare Index (SWI).

Environmental deterioration and its effects are causing both research and policy to focus on this problem. The Stiglitz-Sen-Fitoussi report (2008) analyses well-being and distinguishes between the assessment of current well-being and its sustainability. Today's well-being is considered multidimensional and it depends on economic factors - resources - and not economic - what citizens do and can do, how they perceive their lives and their natural environment. The sustainability of today's well-being aims to transmit to future generations the stocks that are important to our lives - physical, human, social and natural capital. In addition, it will consider that the statistical system should focus more on measuring the well-being of the citizens in a sustainable context than on measuring economic production, and it proposes 12 recommendations to improve statistics on the well-being of the population; five on material well-being, five concerning quality of life and two on the sustainability of the environment.

According to the Brundtland *Our Common Future* report, sustainable development is one that "meets the needs of the present without compromising the ability of future generations to satisfy their own" (Brundtland, 1987, p. 23). In 2000, the United Nations proclaimed the eight Millennium Development Goals (MDG): Eradicating Extreme Poverty and Hunger (1), Achieving Universal Primary Education (2), promote gender equality and women's autonomy (3), reduce child mortality (4), improve maternal health (5), combat HIV/AIDS, malaria and other diseases (6), ensure environmental sustainability (7) and promote partnership for the development (8). Subsequently, 17 Sustainable Development Goals (SDG) were developed at the 2012 United Nations Conference on Sustainable Development (RIO+20) to end poverty, protect the planet and ensure the peace and prosperity of people (see Table 1).

These objectives are a universal call to end poverty, protect the planet and ensure that all people enjoy peace and prosperity, and include new areas such as climate change, economic inequality, innovation, sustainable consumption and peace and justice, among others. They focus on well-being, responsible economic advancement and environmental protection. More and more authors are arguing that the development should be focused on well-being and sustainability (Coulthard, Johnson & McGregor, 2011; Rogers *et al.*, 2012; Costanza *et al.*, 2016; Rodrigo-Cano, Picó & Dimuro, 2019). According to Rogers *et al.* (2012) social and environmental sustainability require an approach based on well-being and in the human needs. For this research, objective 3 is highlighted, whose foundation is to ensure a healthy life and promote a state of well-being.

p-ISSN: 1390-6291; e-ISSN: 1390-8618

To measure social welfare, a number of indicators have been developed, such as corrected GDP, the Human Development Index or the Happy Planet Index that measure the above-mentioned aspects, with the aim of creating policies that help to increase quality of life for citizens. However, there is little literature that studies welfare and sustainable development on social media, specifically on Twitter (see gr. Fownes, Yu & Margolin, 2018; Pearce, 2014).

Costanza *et al.* (2016) have developed methods to link the SDG to global sustainable welfare measures. For them, in an interconnected world, the SDG cannot be achieved unless there is sustainable well-being on a global scale. They are based on the idea that the best system is one whose overall objective is based on a high-quality, prosperous and equitable life of its citizens that, in turn, is sustainable. In this sense, they propose a new indicator that is capable of measuring well-being and that integrates the current knowledge of ecology, economics, psychology and sociology for this purpose. This indicator is the "SWI" (Sustainable Wellbeing Index) which is a hybrid that combines three basic parts for sustainable well-being from an economic dimension, but including both society and nature. It consists of three elements: Net Economic Contribution (E) or efficient allocation (economic element), Natural Capital / Contribution to Ecosystem Services (N) or sustainable scale (environmental element) and Social Capital / Contribution Community (S) or fair distribution (element of welfare). In addition, in their work (*op. cit.)* they relate these three elements that form the Sustainable Well-being Indicator (SWI) with the 17 Sustainable Development Goals (SDG) (see Table 1).

Table 1. SWI and SDG ratio. The 17 SDG grouped into the three elements of sustainable well-being

Efficient allocation: creating a living economy (E)	
Objetive 7	Ensure access to affordable, reliable, sustainable and modern energy for all.
Objetive 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
Objetive 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
Objetive 11	Make cities and human settlements inclusive, safe, resilient and sustainable.
Objetive 12	Ensure sustainable consumption and production patterns.
Sustainable scale: remain in the planetary boundaries (N)	
Objetive 6	Ensure the availability and sustainable management of water and sanitation for all.
Objetive 13	Take urgent action to combat climate change and its impacts.
Objetive 14	Preserve and use in a sustainable way the oceans, seas and marine resources for the sustainable development.

Retos, 9(18), 2019

Objetive 15	Protect, restore and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, stop and reverse land degradation and halt biodiversity loss.
Fair distribution: Bloom protection capabilities (S)	
Objetive 1	End poverty in all its forms and everywhere.
Objetive 2	To end hunger, achieve food security and improve nutrition, and promote sustainable agriculture.
Objetive 3	Ensure healthy lives and promote well-being for all at all ages.
Objetive 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
Objetive 5	Achieve gender equality and empower all women and girls.
Objetive 10	Reduce inequality within and between countries.
Objetive 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and create effective, accountable and inclusive institutions at all levels.
Objetive 17	Strengthen the means of implementation and revitalize the global partnership for the sustainable development.

Source: Costanza *et al.*, 2016.

3. Materials and methods

Content analysis has been used from both a qualitative and quantitative perspective to collect the information to be analyzed. The first allows you to check for the presence of topics, words or concepts in a content; while the second aims to measure the data and establish the frequency of occurrence of the elements considered as units of information. Krippendorf (1990) defines content analysis as “a research technique intended to formulate, on the basis of certain data, reproducible and valid inferences that can be applied to its context” (p. 28). This methodology is appropriate for this work as it adopts as a unit of analysis the message that is selected according to explicit rules (Neuendorf, 2002). The analysis has been carried out in three stages following the Bardin procedure (1983): identification of analysis units, encoding of messages and analysis of results.

In the first stage, the units of analysis have been identified in relation to the objectives to be achieved. Following these steps, user published messages -from @ desdelamoncloa, the official Twitter account of the Government of Spain, during 2018 have been identified as units of study. The Twitter microblogging network has been considered for the analysis, as it is one of the most notorious and used social networks in Spain (IAB, 2018), with some 4.9 million users (SMF, 2018). In addition, it is increasingly useful for extracting information about public opinion on social media (Bernhardt, Mays and Hall, 2012).

p-ISSN: 1390-6291; e-ISSN: 1390-8618

Unlike Facebook, which offers limitations with private or semi-private profiles, Twitter facilitates open communication between users and allows them to share their opinions in a publicly accessible way. The FanPageKarma tool has been used for data extraction. With this resource, all messages issued in 2018 have been collected by @desdelamoncloa, gathering an effective total sample of 2,587 publications (information units).

In the second stage, these posts have been encoded according to three variables: objective v1 (or1... o17), v2 month (January... December) and v3 impact (likes + share). To encode messages according to variable 1, it has been taken into account that they contain words or expressions related to each SGD (see Table 2). Also, to measure the impact (variable 3) of the message, the times that these have been shared and the likes of each one have been taken into account.

Table 2. Terms and expressions related to the SDG (v1)

SDG	Terms
Objective 2	Hunger, malnutrition
Objective 3	Well-being, quality of life, health
Objective 4	Student, scholarship, education
Objective 5	Inequality, gender, men women, machism
Objective 6	Water, drinking water
Objective 7	Energy
Objective 8	Unemployment, employment, economic growth, wage
Objective 9	Development, industry, infrastructure, innovation, investigation
Objective 10	Equality, income
Objective 11	Cities, communities, sustainable
Objective 12	Consumption, production
Objective 13	Climatic change, weather, temperature
Objective 14	Marine, ocean
Objective 15	Environmental, pollution, fauna, flora, forest, river
Objective 16	Justice, NGO
Objective 17	Alliance, covenant, relationships

Source: Own elaboration

In the third stage, analysis of the results, the knowledge of the messages is deepened. The resources used have been the IBM SPSS and Nvivo 12 plus programs, which allow conducting two kinds of analysis: the first descriptive, both qualitative and quantitative to know: the most commonly used terms, the context in which the word appears, the impact of messages talking about the SDB and those related to SWI. And the second correlation is two types, one for the purpose of measuring the

Retos, 9(18), 2019

relationship degree between the impact of messages (v3) and the SDG (v1), which would be carried out by the non-parametric Kruskal Wallis test in the SPSS. And another, using a cluster analysis with Pearson's correlation coefficient in the Nvivo 12 program, displaying nodes that share similar words. In addition, to show other results, resources such as tag clouds and word trees have been used.

4. Results

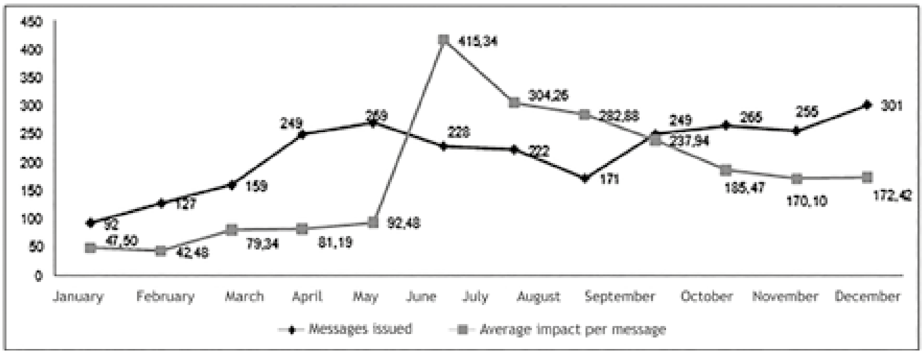
The analysis of the results first shows an overview of the account -@desdelamoncloa. The data for the qualitative analysis and the results for the quantitative analysis are presented. Figure 1 shows that the official Government account in Spain follows 154 users and has 591 769 followers. This data provides an insight into the account's personality, as measured by the TFF ratio (Twitter Following Follower Ratio) (Moll, 2015). In the case at hand, since the account analyzed is a public institution of recognized prestige, the value of the ratio is very high (591.769/154), which means that it is difficult to convey a sense of closeness.

Figure 1. Twitter general data of @desdelamoncloa

Source: Obtained on 05/26/19 from @desdelamoncloa https://bit.ly/2YVIrrC

If observing the monthly evolution of messages issued during 2018 and the impact on the public by such posts (likes+retweets) the data of Figure 2 are obtained, showing that the largest average impact per message was achieved in the month of June. In the morning of Saturday 9 June to Sunday 10, the Aquarius ship was rescued by 629 migrants trying to reach the European coast, including 123 unaccompanied minors, 11 young children and 7 pregnant women.

Figure 2. Number of messages issued by @desdelamoncloa and average impact by message during 2018



The most impactful message in the whole year (Figure 3) deals with the host theme of the Aquarius ship, which achieved a total of 7,201 reactions (retweets+likes).

Figure 3. The most impacting message of @desdelamoncloa in 2018

Source: Obtained on 05/26/2019 from @desdelamoncloa https://bit.ly/2YPP76r

4.1. Results of qualitative analysis

Even though the most responsive message from the public is the one related to the Aquarius rescue, the most common in June publications are "conference" and "press" (Figure 4 and 5), which refer to appearances by members of the government to journalists. These results show the tendency to post informational messages on Twitter, especially agreements or decisions made by the government. The same is true for the rest of the year (Figure 5), in which the prominence of other important terms such as #agenda2030 is lower (it appears in 13% of messages).

Retos, 9(18), 2019

Figure 4. Most published terms in June 2018

Figure 5. Most published terms in 2018

Nor do the words SDG or "Sustainable Development Goals" appear, although the word "objective" refers to specific programs related to these SDG, such as education (see Figure 6).

Figure 6. Tweet addressing SDA 4 "Quality Education"

Source: Obtained on 11/21/2018 from @desdelamoncloa from https://bit.ly/2YOiB8D

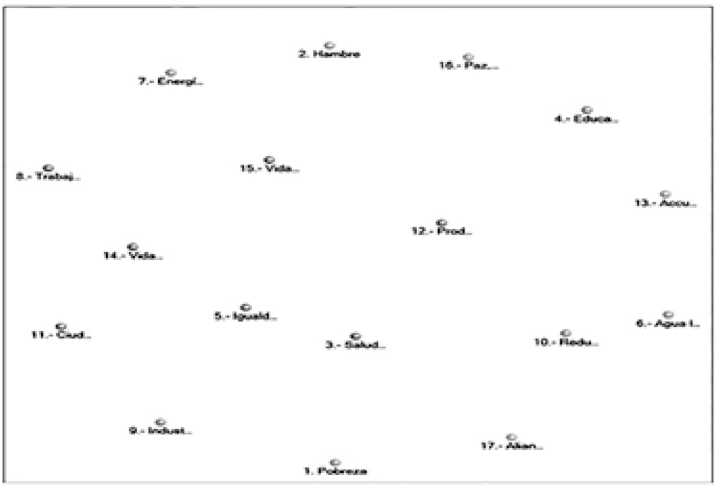
Making special emphasis to SDG 3 "Health and well-being", one of the most outstanding and researched from a multidisciplinary approach, Figure 7 shows the context in the which "well-being" appears in the account under study. This word appears with other words such as "State" or with the hashtags #40AñosdeEstadoSocial or #SomosEspaña, which indicate the government's concern for the values that Spain represents and for the well-being of citizens.

Figure 7. Context in which the term well-being appears in publications of @desdelamoncloa in 2018

Source: Own elaboration

To understand the relationship of objective 3 (welfare and health) with other SDG, a conglomerates analysis has been carried out (Figure 8), which highlights that the messages about objectives 3, 5 (Gender Equality) and 10 (reduction of inequalities) are similar in between. If looking more specifically at the messages that speak of the latter two, it points out that they have an impact of 4 831 reactions. It can be inferred that followers of @desdelamoncloa are concerned about the conditions of inequality and relate this aspect to well-being.

Figure 8. Conglomerates analysis of SDG messages by term similarity



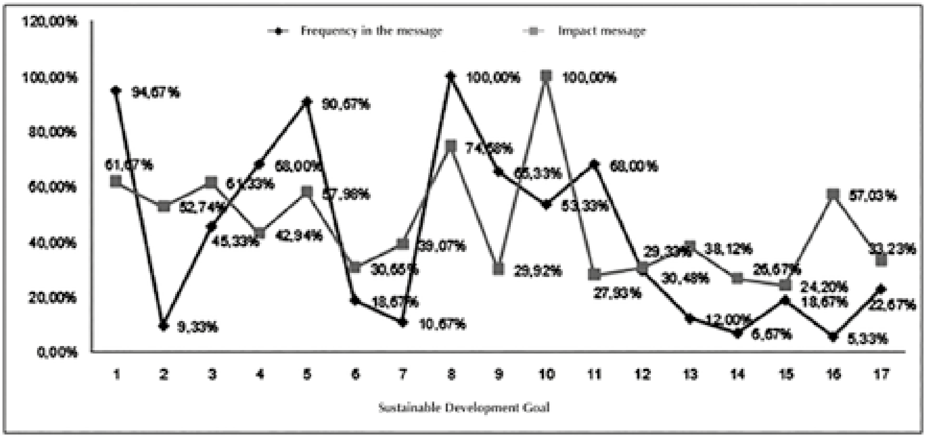
Source: Own elaboration

Retos, 9(18), 2019

4.2. Results of quantitative analysis

After a first exploration of the data from a qualitative approach, the results of the quantitative analysis are presented. The first step was to analyze the number of messages in which some SDG are discussed, as well as the average impact of such publications (Figure 9).

Figure 9. Number of messages issued by SDG and impact thereof in 2018 by @desdelamoncloa



Source: Own elaboration

As can be seen in the above figure, the messages on SDG 8, i.e., "decent work and economic growth", have had the greatest impact, but they are not the most published. The opposite is true of the messages that speak of objective 10, "reduction of inequalities", which are the most published, but have an impact of 53.33%. On the other hand, the messages with the least impact are the ones that speak of SDS 15 and 11. Referring to the SDG of "health and well-being" (3) it emphasizes that the average impact per message is 61.33%, being one of the most important. Other targets that appear infrequently are 16 and 14.

In general, the organization's most published SDG are not the ones that have caused the most public reaction. In this regard, it should be noted that the biggest difference is in objective 16, "Peace, justice and solid institutions" and 2, "zero hunger". In both, there has been more public's reaction compared to the number (n) of messages posted on them. For a more detailed view, Table 3 shows messages that address multiple objectives at once, in particular, those messages that contain more than three are displayed.

Table 3. Messages posted by @desdelamoncloa containing more than three targets in 2018

Id	Objetive	Nº of objetives	Nº of Likes	Retweets
3	1,3,4,5,7,8,10,12	8	534	300
1346	1,4,5,10,11,12	6	242	150
72	3,4,8,10,	4	2588	952
5	1,5, 13	3	180	120
66	1,4,9	3	59	36
116	1,5,10	3	51	59
397	1,2,5	3	524	320
478	1,4,9	3	48	34
479	5,10,13	3	498	250
529	1,4,9	3	39	20
803	4,5,10	3	53	27
823	8,9,10	3	211	149
1340	1,9,11	3	539	365
1423	9,11,16	3	326	213

Source: Own elaboration

At this point, it is advisable to contrast the hypothesis that "the impact of the messages published by -@desdelamoncloa depends on the SDG they mentioned". To this end, Kruskal Wallis' nonparametric hypothesis contrast has been carried out, obtaining a p-value lower than 0.05, so there are significant differences between the impact variable and the target variable, and it can be mentioned that the impact of the messages depends on the topic used.

Table 4. Kruskal Wallis test results

Test statistics [a, b]	
a.b	Impact
Chi squared	34,622
Gl	16
Sig. asymptotic	,004

Source: Own elaboration

a. Kruskal Wallis test
b. Grouping variable: objectives

Retos, 9(18), 2019

Finally, Table 5 examined the impact of the three elements of SWI according to the impact of the SDG (Costanza *et al.*, 2016).

Table 5. Impact of SWI elements based on their relationship to the SDG

Objetives	Times these appear	Likes (a)	Retweets (b)	Likes/nº message	Impact of the message
Fair distribution. Social Capital / Communitary contribution (S)					
1	71	13840	9539	194,93	329,28
2	7	1171	800	167,29	281,57
3	34	7105	4028	208,97	327,44
4	51	7286	4406	142,86	229,25
5	68	12783	8267	187,99	309,56
10	40	13268	8089	331,70	533,93
16	4	739	479	184,75	304,50
17	17	1889	1127	111,12	177,41
	275	58081	36735	1529,60	2492,94
Sustainable scale. Natural Capital / Contribution to the Ecosystem Services (N)					
6	14	1307	984	93,36	163,64
13	9	1103	729	122,56	203,56
14	5	397	315	79,40	142,40
15	14	1020	789	72,86	129,21
	42	3827	2817	368,17	638,81
Efficient allocation. Net economic contribution (E)					
7	8	971	698	121,38	208,63
8	75	17778	12088	237,04	398,21
9	49	4569	3259	93,24	159,76
11	51	4402	3203	86,31	149,12
12	22	2083	1497	94,68	162,73
	205	29803	20745	632,66	1078,44

Source: Own elaboration

Table 5 shows that the impact of Social Capital/Community Contribution (wel-being element) is significantly higher (2492.94) than Natural Capital / Contribution to Ecosystem Services (environmental and sustainable element) and to Net Economic Contribution (economic element), whose values are 638.81 and 1078.44, respectively. Therefore, in the user @desdelamoncloa the element of well-being has more impact than the environmental and economic.

5. Conclusions and discussion

This work has proved how the social network Twitter is a tool that from the point of view of social marketing can be used to obtain information about the interest of users in the SDG and contribute to the decision-making in the development and implementation of public policies, agreeing with Rodriguez and Ureña (2011) when saying that Twitter is a means that makes the demands and opinions of citizens closer to their politicians; but it is also a way by which politicians can influence citizens' opinions, making them aware of the suitability of implementing more efficient welfare policies in a more efficient way.

The results of the qualitative analysis, in particular in the analysis of the context of the term "well-being", show that this term appears with other words such as "State" or with the hashtags #40AñosdeEstadoSocial or #SomosEspaña, indicating the government's concern for the values that Spain represents and for the well-being of citizens. This issue is discussed in different studies that show the need for such responsibility, especially since the approach to the institutional economy emerged (Vergara and Ortiz, 2016). It is also noteworthy that there are considerable references in which the purpose is to speak and act when asking questions about the SDG and to encourage through the social media (Saxton & Waters, 2014).

The results of the quantitative analysis show that the messages that speak about objective 8, i.e., "decent work and economic growth", have had the greatest impact, however, they are not the most published. The opposite is true of the messages which speak about objective 10, "reduction of inequalities". On the other hand, the messages with the least reactions are the ones that speak of SDG 15 and 11. These results contradict those of @desdelamoncloa to the ones obtained by Menéndez, Saura and Alvarez (2018), Can and Atlatas (2017) and Angulo (2010), concluding that the "environment" is one of the most worrying issues, as well as "health and well-being".

Furthermore, since the analysis of @desdelamoncloa on well-being and the SDG, it has been found that although compliance with the 2030 Agenda and the 17 SDG are essential for the country's future, messages dealing directly with them are not usually published.

With regard to the political implications of the analysis of objectives according to the three elements (Well-being, Economics and Sustainability), it has been found that the impact has been higher on the objectives focused on well-being and economics than on sustainability. This may lead to believe that there is little awareness of the environment deterioration and that it would be necessary to raise awareness of the environmental problem among the Spanish population in order to involve them in complying with the SDG.

In this sense, Liu e*t al.* (2014) proposed the creation of a citizen observatory to enhance citizen awareness of environmental deterioration and maintain commu-

Retos, 9(18), 2019

nity-based environmental governance. This proposal may be interesting, but it is not the only virtual place to collect and share data. The problem of the environment is a global problem, thus the political action should be carried out both from a global perspective and in a particular way by each of the countries (glocal). Each country's environmental citizen awareness is different, as there are countries such as Iceland and Norway where their citizens have a high awareness of the environment, so their political action would be different from that of Spain.

In short, this study has shown that Twitter provides information about the SDG that the user of the official government account in Spain considers, and the Sustainable Development Goals that are of most concern to its users. It also reveals which topic is related to well-being and provides useful information to know the line to follow for raising awareness of citizens. Further research would be desirable to help organizations advance on social marketing management through digital social media, as they provide a great opportunity for governments to communicate their projects and create long-term relationships with the community to turn them into collaborators.

References

Aboelmaged, M. (2018). Predicting the success of Twitter in healthcare: A synthesis of perceived quality, usefulness and flow experience by healthcare professionals. *Online Information Review*, *42*(6), 898-922. https://doi.org/10.1108/OIR-01-2017-0018

Agencia Española de Cooperación Internacional para el Desarrollo (AECID). (2019). *La Agenda 2030. El reto de los Objetivos de Desarrollo Sostenible*, 15 de mayo del 2019. Recuperado de https://bit.ly/29ZqPSq

Andreasen, A. (1994). Social Marketing: Its Definition and Domain. *Journal of Public Policy & Marketing*, *13*(1), 108-114. https://doi.org/10.1177%2F074391569401300109

Angulo, N. (2010). Pobreza, medio ambiente y desarrollo sostenible. *Nómadas*, *Revista Crítica de Ciencias Sociales y Jurídicas*, *26*(2), 1-11.

Asheim, G. (2010). The relationship between welfare measures and indicators of sustainable development. En T. Aronsson & K.-G. Löfgren (Eds.), *Handbook of Environmental Accounting* (pp. 237-256). England: Edward Elgar Publishing LTD. https://doi.org/10.4337/9781849805704

UN General Assembly (2015). *Transforming our world: the 2030 agenda for sustainable development*. New York, Estados Unidos: United Nations.

Bain, J., & Chaban, N. (2017). An emerging EU strategic narrative? Twitter communication during the EU's sustainable energy week. *Comparative European Politics*, *15*(1), 135-155. https://doi.org/10.1057/cep.2016.17

Bernhardt, J., Mays, D., & Hall, A. (2012). Social marketing at the right place and right time with new media. *Journal of Social Marketing*, *2*(2), 130-137. https://doi.org/10.1108/20426761211243964

Chisholm, E., & O'Sullivan, K. (2017). Using Twitter to Explore (un)Healthy Housing: Learning from the #Characterbuildings Campaign in New Zealand. *Int. J. Environ. Res. Public Health*, *14*(11), 1424. https://dx.doi.org/10.3390%2Fijerph14111424

Blanchflower, D. G., & Oswald, A. J. (2011). International happiness: A new view on the measure of performance. *Academy of Management Perspectives*, *25*(1), 6-22. https://doi.org/10.5465/amp.25.1.6

Chen, J., Goldstein, M., Asch, S., Mackey, L., & Altman, R. (2017). Using social media to monitor mental health discussions-evidence from Twitter. *Journal of the American Medical Informatics Association*, *24*(3), 496-502. https://doi.org/10.1093/jamia/ocw133

Chua, H., Allem, P., Unger, J., Cruz, T., Akbarpour, M., & Kirkpatrick, M. (2019). Strategies to find audience segments on Twitter for e-cigarette education campaigns. *Addictive Behaviors*, *91*, 222-226. https://doi.org/10.1016/j.addbeh.2018.11.015

Colditz, J., Welling, J., Smith, N., James, A., & Primack, B. (2019). World Vaping Day: Contextualizing vaping culture in online social media. *Journal of Mixed Methods Research*, *13*(2), 1-20. https://doi.org/10.1177/1558689817702753

Costanza, R., Daly, L., Fioramonti, L., Giovannini, E., Kubiszewski, I., Mortensen, L. F., & Wilkinson, R. (2016). Modelling and measuring sustainable wellbeing in connection with the UN Sustainable Development Goals. *Ecological Economics*, *130*, 350-355. http://dx.doi.org/10.1016/j.ecolecon.2016.07.009

Costanza, R., McGlade, J., Lovins, H., & Kubiszewski, I. (2014). An overarching goal for the UN sustainable development goals. *Solutions*, *5*(4), 13-16.

Coulthard, S., Johnson, D., & McGregor, J. A. (2011). Poverty, sustainability and human wellbeing: a social wellbeing approach to the global fisheries crisis. *Global Environmental Change*, *21*(2),. 453-463. https://doi.org/10.1016/j.gloenvcha.2011.01.003

Di Tella, R. D., MacCulloch, R. J., & Oswald, A. J. (2003). The macroeconomics of happiness. *Review of Economics and Statistics*, *85*(4), 809-827. https://doi.org/10.1162/003465303772815745

Di Tella, R., Haisken-De New, J., & MacCulloch, R. (2010). Happiness adaptation to income and to status in an individual panel. *Journal of Economic Behavior & Organization*, *76*(3), 834-852. https://dx.doi.org/10.1016/j.jebo.2010.09.016

Di Tella, R., MacCulloch, R. J., & Oswald, A. J. (2001). Preferences over inflation and unemployment: Evidence from surveys of happiness. *American economic review*, *91*(1), 335-341. https://dx.doi.org/10.1257/aer.91.1.335

Diener, E., Lucas, R. E., & Scollon, C. N. (2009). Beyond the hedonic treadmill: Revising the adaptation theory of well-being. *American Psychologist*, *61*(4), 305-314. https://doi.org/10.1037/0003-066X.61.4.305

DiMaria, C. (2019). Sustainability, welfare and efficiency of nations. *Quality & Quantity*, *53*(3), 1141-1163. https://doi.org/10.1007/s11135-018-0809-3

Domegan, C., Kollins, K., Stead, M., McHugh, P., & Hughes, M. (2013). Value co-creation in social marketing: functional or fanciful. *Journal of Social Marketing*, *3*(3), 239-256. https://doi.org/10.1108/JSOCM-03-2013-0020

Dooley, J., Jones, S., & Iverson, D. (2012). Web 2.0: an assessment of social marketing principles. *Journal of Social Marketing*, *2*(3), 207-221. https://doi.org/10.1108/20426761211265195

Duarte, T., & Jiménez, R. E. (2007). Aproximación a la teoría del bienestar. *Scientia et Technica*, *13*(37), 305-310. http://dx.doi.org/10.22517/23447214.4107

Durana, D., Artenea, A., Gogana, L., & Durana, V. (2015). The Objectives of Sustainable Development - Ways to Achieve Welfare. *Procedia Economics and Finance*, *26*, 812-817. https://doi.org/10.1016/S2212-5671(15)00852-7

Easterlin, R. A., McVey, L. A., Switek, M., Sawangfa, O., & Zweig, J. S. (2010). The happiness-income paradox revisited. Proceedings of the National Academy of Sciences, *107*(52), 22463-22468. https://doi.org/10.1073/pnas.1015962107

Fisher, C. (2010). Happiness at work. *International journal of management reviews*, *12*(4), 384-412. https://doi.org/10.1111/j.1468-2370.2009.00270.x

Fownes, J., Yu, C., & Margolin, D. (2018). Twitter and climate change. *Sociology Compass*, *12*(6), 1-12. https://doi.org/10.1111/soc4.12587

Frey, B. S., & Stutzer, A. (2018). *Economics of happiness*. Switzerland: Springer International Publishing. https://doi.org/10.1007/978-3-319-75807-7

Froding, K., Eriksson, C., Elander, I., & Geidne, J. (2007). Partnership for healthy neighbourhoods: City Networking in Multilevel Context. *European Journal of Public Health* *15*(4), 317-331. https://doi.org/10.1177%2F0969776408095108

Gallopín, G. (2003). *Sostenibilidad y desarrollo sostenible: un enfoque sistémico*. Santiago de Chile: CEPAL.

Gerdtham, U. G., & Johannesson, M. (2001). The relationship between happiness, health, and socio-economic factors: results based on Swedish microdata. *The Journal of Socio-Economics*, *30*(6), 553-557. https://doi.org/10.1016/S1053-5357(01)00118-4

Golbeck, J., & Hansen, D. (2014). A method for computing political preference among Twitter followers. *Social Networks*, *36*, 177-184. https://doi.org/10.1016/j.socnet.2013.07.004

Griggs, D., Stafford-Smith, M., Gaffney, O., Rockström, J., Öhman, M. C., Shyamsundar, P., ... & Noble, I. (2013). Policy: Sustainable development goals for people and planet. *Nature*, *495*(7441), 305-307. https://doi.org/10.1038/495305a

Hestres, L. (2014). Preaching to the choir: internet-mediated advocacy, issue public mobilization, and climate change. *New Media & Society*, *16*(2), 323-339. https://doi.org/10.1177/1461444813480361

IAB Spain & Elogia (2018). *VIII Estudio anual de redes sociales 2018*. Recuperado de https://bit.ly/2J95UhE

Kotler, P. (2011). Reinventing marketing to manage the environmental imperative. *Journal of Marketing*, *75*(4), 132-135. https://doi.org/10.1509/jmkg.75.4.132

Kotler, P., & Levy, S. (1969a). Broadening the Concept of Marketing. *Journal of Marketing*, *33*(1), 10-15. https://doi.org/10.1177%2F002224296903300103

Kotler, P., & Levy, S. (1969b). A New Form of Marketing Myopia: Rejoinder to Professor Luck. *Journal of Marketing*, *33*(3), 55-57. https://doi.org/10.2307/1248483

Krippendorff, K. (1990). *Metodología de análisis de contenido. Teoría y práctica*. Barcelona, España: Paidós Comunicación.

Liu, H. Y., Kobernus, M., Broday, D., & Bartonova, A. (2014). A conceptual approach to a citizens' observatory–supporting community-based environmental governance. *Environmental Health*, *13*(1), 107. https://doi.org/10.1186/1476-069X-13-107

Luttmer, E. F. (2005). Neighbors as negatives: Relative earnings and well-being. *The Quarterly journal of economics*, *120*(3), 963-1002. https://doi.org/10.1093/qje/120.3.963

McGregor, S., & Mourao, R. (2016). Talking Politics on Twitter: Gender, Elections, and Social Networks. *Social Media + Society*, *2*(3), 1-14. https://doi.org/10.1177%2F2056305116664218

Menéndez, A.; Saura, J., & Álvarez, C. (2018). Understanding #WorldEnvironmentDay User Opinions in Twitter: A Topic-Based Sentiment Analysis Approach. *International Journal of Environmental Research and Public Health*, *15*(11), 2537. https://doi.org/10.3390/ijerph15112537

Mikulcic, H., Klemes, J., & Duic, N. (2016). Shaping sustainable development to support human welfare. *Clean Technologies and Enviromental Policy*, *18*(6), 1633-1639. https://doi.org/10.1007/s10098-016-1269-x

Moll de Alba, E. (2015). *Análisis comparativo de la utilización de Twitter como canal de comunicación para las principales editoriales estadounidenses y españolas* (tesis doctoral). Universidad Autónoma de Barcelona, España.

Momete, D. (2017). Rational Development as a Sustainable Progress Welfare Vector: A Cross-Country Analysis. *Sustainable Development*, *25*(3), 189-199. https://doi.org/10.1002/sd.1645

Neuendorf, K. (2002). *The content analysis guidebook*. Estados Unidos: Sage.

Pearce, W.; Holmberg, K.; Hellsten, I. y Nerlich, B. (2014). Climate change on Twitter: topics, communities and conversations about the 2013 IPCC Working Group 1 report. *PLoS One*, *9*(4), 1-12. https://doi.org/10.1371/journal.pone.0094785

Pershad, Y., Hangge, P., Albadawi, H., & Oklu, R. (2018). Social Medicine: Twitter in Healthcare. *Journal of Clinical Medicine*, *7*(6), 1-9. https://doi.org/10.3390/jcm7060121

Ravina Ripoll, R., Villena Manzanares, F., & Gutiérrez Montoya, G. A. (2017). Una aproximación teórica para mejorar los resultados de innovación en las empresas desde la perspectiva del "Happiness Management". *Retos. Revista de Ciencias de la Administración y Economía*, *7*(14), 113-129. https://doi.org/10.17163/ret.n14.2017.06

Rodrigo-Cano, D., Picó, M.J., & Dimuro, G. (2019). Los Objetivos de Desarrollo Sostenible como marco para la acción y la intervención social y ambiental. *Retos. Revista de Ciencias de la Administración y Economía*, *9*(18), 25-36. https://doi.org/10.17163/ret.n17.2019.02

Rodríguez, R., & Ureña, D. (2011). Diez razones para el uso de Twitter como herramienta en la comunicación política y electoral. *Comunicación y pluralismo*, (10), 89-116.

Rogers, D. S., Duraiappah, A. K., Antons, D. C., Munoz, P., Bai, X., Fragkias, M., & Gutscher, H. (2012). A vision for human well-being: transition to social sustainability. Current Opinion in Environmental *Sustainability*, *4*(1), 61-73. https://doi.org/10.1016/j.cosust.2012.01.013

Rojas, M. (2009). Economía de la felicidad: hallazgos relevantes respecto al ingreso y el bienestar. *El trimestre económico*, *76*(303), 537-573. https://www.jstor.org/stable/20857218

Saxton, G., & Waters, R. (2014). What do Stakeholders Like on Facebook? Examining Public Reactions to Nonprofit Organizations' Informational, Promotional, and Community-Building Messages. *Journal of Public Relations Research*, *26*(3), 280-299. https://doi.org/10.1080/1062726X.2014.908721

Sammarco, P. (2018). *V informe del uso de las redes sociales en España*, Social Media Family (SMF), 20 de febrero del 2019. Recuperado de https://bit.ly/2BR2FHL

Stiglitz, J., Sen, A., & Fitoussi, J. P. (2008). *Informe de la Comisión sobre la Medición del Desarrollo Económico y del Progreso Social*. Recuperado de https://bit.ly/2v0ZJmy

Urbina, M., Gutiérrez, L., Ermani, R., Lozano, R., & Finkelman, J. (2017). La transición de los Objetivos de Desarrollo del Milenio a los Objetivos de Desarrollo Sostenible desde la perspectiva de los determinantes sociales de la salud y la equidad en salud. *Gac Med Mex*, *153*(6), 697-730.

Vergara, C., & Ortiz, D. (2016). Desarrollo sostenible: enfoques desde las ciencias económicas. *Apuntes del CENES*, *35*(62), 15-52. https://doi.org/10.19053/22565779.4240

Zhang, Z., & Ahmed, W. (2019). A comparison of information sharing behaviors across 379 health conditions on Twitter. *International Journal of Public Health*, *64*(3), 431-440. https://doi.org/10.1007/s00038-018-1192-5

Retos, 9(18), 2019
Journal of Administration Sciences and Economics | p-ISSN impreso: 1390-6291| e-ISSN: 1390-8618
www.retos.ups.edu.ec

Towards happiness in the workplace: Taking care of motivations and eliminating «digital fears»

Hacia la felicidad laboral: Atender motivaciones y eliminar «temores digitales»

Dra. María-José Foncubierta-Rodríguez, is professor and researcher at Universidad de Cádiz (España) (mariajose.foncubierta@uca.es) (https://orcid.org/0000-0003-3231-5261)

Juan-Manuel Sánchez-Montero, is professor and researcher at Universidad de Cádiz (España) (juanmanuel.sanchezmontero@alum.uca.es) (https://orcid.org/0000-0002-4940-0764)

Abstract

Motivation is a basic element of the 'Happiness Management' model at work. Its components are analyzed in the digital era under the Herzberg Theory of the motivational and motivational factors to verify if an association between worker sociodemographic profile and these factors is detected, which would allow the managers to «sanitize» them. In a group of companies in Algeciras Bay, province of Cádiz (Spain), in the Strait of Gibraltar, a survey has been done. This area is of special strategic relevance, being the main transit route for people and merchandise worldwide, and a meeting point for two continents, two seas and two cultures. By a validated questionnaire, the opinions of workers are collected about the issues that have been established as motivating and demotivating factors (fears). Refined data are treated with SPSS.25 program. It is confirmed that the motivational factors are highly valued. Falsity of the data, fear of being substituted at job, and depersonalization because automation are the most feared topics. An association of worker sociodemographic variables and the level to which some of these fears are manifested is found out. The main originality of this paper lies in the contribution and analysis of new motivational factors of the digital age in workplace, which must be managed.

Resumen

Considerando la motivación como integrante básico de la gestión de la felicidad en el trabajo, se analiza la valoración de determinados componentes de la misma en la era digital a partir del concepto de factor motivacional e higiénico de Herzberg. Se comprobará si existe alguna asociación entre el perfil sociodemográfico del trabajador y ciertos factores a «higienizar». Se realiza un cuestionario en muestra de empresas de la bahía de Algeciras, en la provincia de Cádiz (España), en el estrecho de Gibraltar, zona ésta que resulta de especial relevancia estratégica al ser ruta de tránsito mundial principal de personas y de mercancías, y punto de encuentro de dos continentes, dos mares y dos culturas. Mediante cuestionario validado, se recogen las opiniones de trabajadores sobre los factores establecidos como motivadores y desmotivadores (temores). Los datos, depurados, son tratados con el programa SPSS.25. Se confirma que los factores motivacionales propuestos son altamente valorados. La falsedad de datos, el miedo a ser sustituidos en las tareas y la «despersonalización» del trabajo son las cuestiones más temidas, cuya ausencia hay que procurar. Se percibe también, asociación de determinadas variables sociodemográficas del trabajador con el grado en que se manifiestan alguno de esos temores. La originalidad principal de este trabajo estriba en que se aportan y analizan factores motivacionales e higiénicos de nueva aparición en lo laboral, que, como tales, habrán de ser gestionados.

Keywords | palabras clave

Motivation, robotization of jobs, Herzberg, happiness management, job satisfaction, motivation theories, fears at digital era, company.
Motivación, robotización laboral, Herzberg, gestión de la felicidad, satisfacción laboral, teorías de la motivación, temores en la era digital, empresa

Suggested citation: Foncubierta-Rodríguez, M.J. y Sánchez-Montero, J.M. (2019). Towards happiness in the workplace: Taking care of motivations and eliminating «digital fears». *Retos Journal of Administration Sciences and Economics, 9*(18), 231-248. https://doi.org/10.17163/ret.n18.2019.04

Received on: 05/29/19 | Reviewed on: 06/22/19 |Approved on: 07/14/19 | Published on: 10/01/19

Retos, 9(18), 2019

1. Introduction

1.1. State-of-the-art

The advent of the new century and the current decade has caused the emergence of a new concept that seemed even alien to the labor context: that of happiness at work. Whether directly treating "Happiness Management" (González-Díaz, 2018), as certain theories derived or complementary to it, such as "Happy-Performing Managers" (*v. gr.* Hosie *et al.*, 2019), the literature shows that the conclusion is similar for employees and managers: happier people, with greater emotional well-being in the work environment, show more motivation for the performance of the activity; and this is happening in companies, but also in non-profit organizations (Bashir *et al.*, 2019).

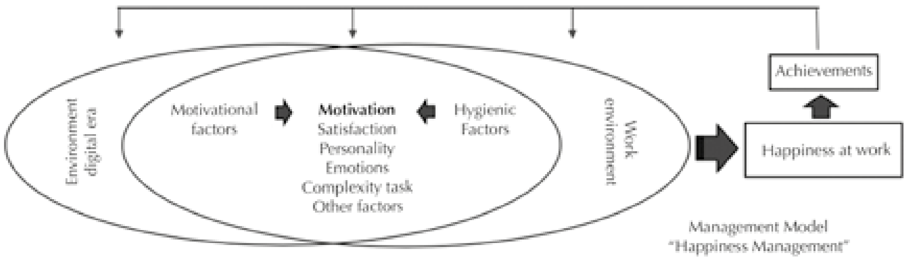
Happiness, satisfaction and motivation are different terms, but clearly interrelated. The Royal Academy of the Spanish Language (RAE) defines motivation as the stimulus or interest that determines the actions of a person. And so, if the employee is motivated to do his work and achieve the objectives set, it could be considered both a purpose Price & Reichert, 2017; Taipale *et al.*, 2011; Baptiste, 2007), as an instrument (Gaitán *et al.*, 2015; Meyers *et al.*, 2013; Zelenski *et al.*, 2008, Chalofsky, 2003 in Arslan & Roudaki, 2019) of «Happiness Management».

Studies that have linked over the past decade to the management of happiness in the work with performance or productivity (thesis of Wright and Staw's Happy Productive Worker, 1999, widely analyzed by Ledford, 1999), support an association, in certain conditions, between happier employees and a better working result (Moccia, 2016; López & Fierro, 2015; Fisher, 2010). This is especially important in complex jobs that need creative solutions (Kang *et al.*, 2016), which could be applied to the current digital environment.

In this relationship, motivation is also involved. Cropanzano and Wright (2001) conclude that there is a significant relationship between depression or little happiness in the employee's work, and the low energy and motivation when performing the activity, leading to poor performance. The level of job performance is the result of the behaviors of people in the social and motivational context in which organizational work is carried out (van Scotter & Motowidlo, 1996, in Hosie *et al.*, 2019, p.10; Ravina *et al.*, 2017). The relationship is complex and multivariate. Zelenski *et al.* (*op. cit.*) argue that in this function emotions, personalities, tasks, motivations, among other factors, must be valued.

This study is based on a model in which motivation is an instrument for achieving happiness in the working environment (Figure 1). Exploratory analysis is carried out to detect motivation and demotivation in the current digital work context, which will guide management on which issues to pay the most attention to in order to achieve a further step towards the "Happy Company". And this, because it is a key role of management to maintain the emotional of its teams, detecting the nonconformities that may occur, the demotivation, in order to try to solve them or soften them as far as possible (Goleman, 1995, in Romero-Rodríguez *et al.*, 2019, p. 25), and because, as the RAE argues in one of the meanings of the term, happiness is the absence of stumbles and inconveniences.

Figure 1. Role of motivation in the 'Happiness Management' model



1.2. Work motivation in the digital age and Herzberg Theory

There are different definitions of motivation. In a broad sense, this is an emotional state that is generated in a person as a result of the influence on his behavior of certain factors (Koenes, 1996). In the business field, it refers to the process that explains the intensity, direction and persistence of an individual's effort to achieve a goal; the intensity being the effort put into the realization of the task, the direction of that effort, achievement or goal, and the persistence, the duration in which the effort is maintained (Robbins & Judge, 2009).

> It contributes to the degree of commitment of the person; it is a process that causes, activates, orients, energizes and maintains the behavior of individuals towards the realization of expected objectives (Lopez, 2005, p.26).

Table 1. New motivating factors in the digital age

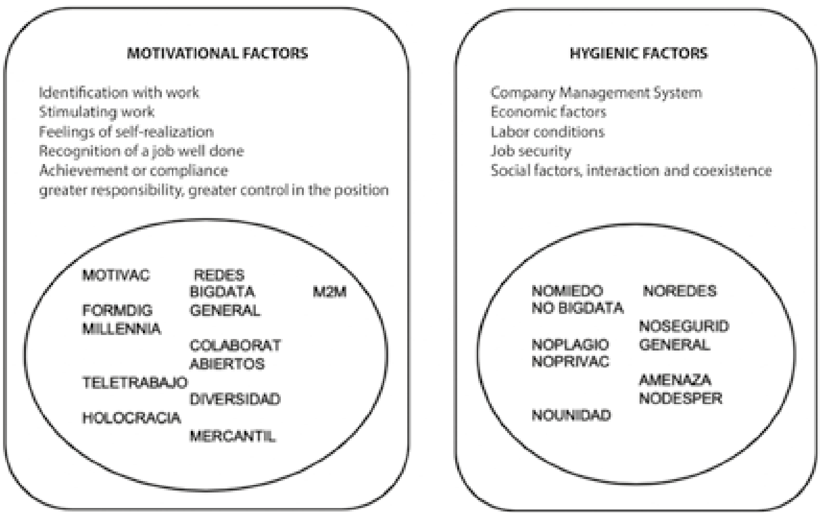
Question	Name of the variable
Information systems	
Digitization and automation of jobs increases employee motivation.	Motivational
contacting through networks expands my world as a worker.	Networks
having information through Cloud Computing or Big Data, makes my job easier.	Bigdata
under the current framework; in the face of the fourth industrial revolution (Industry 4.0), the reality "M2M" (machine to machine), i.e., the transmission and management of information between machines, will be positive for a more efficient development of work.	M2M
in general, using new digital technologies in my work motivates me.	General
i consider a continuous digital training/update policy for employees to be very motivating in today's era.	Formdig
working and relation contexts	
Working with colleagues from different degrees of digital culture (babby boomers, generation X, generation Z or millennials...) is motivating.	Millennia
i like that new technologies allow me to work collaboratively with other people.	Colaborative

Retos, 9(18), 2019

Question	Name of the variable
Information systems	
working in large, and open physical spaces that promote interrelationship and transparency between colleagues, and not in separate spaces, is motivating.	Open
having the ability to work from physical spaces other than my job or company (telework) is motivating.	Telework
i am motivated to work on diversity, called "hybridization contexts", i.e., with people from different areas of knowledge, of different cultures, with different points of view.	Diversity
i am motivated by the fact that organizations tend to "holocracy", i.e., to be able to dispense with positions or managers, given the preparation and autonomy of workers, and their linkage in multidisciplinary teams, or hybrids, that work collaboratively.	Holocracy

This work is based on the “Theory of Motivation” by Herzberg *et al.* (1959). There are several researches that have used this theory as a framework to this day in multiple sectors or professional fields (e.g., in Health: Albohoseini *et al.*, 2018, Petersen *et al.*, 2017, Torkaman *et al.*, 2017; in Education: Verma & Sharma, 2018, Emiroglu *et al.*, 2017, Escardibul & Afcha, 2017, Rizkallah & Seitz, 2017; in the Public Sector: Khoshnevis & Tahmasebi; in Hospitality: Cech *et al.*, 2015), and in diverse cultures (Warrier & Prasad, 2018; Rahman *et al.*, 2017). However, few people are still dedicated to the working environment in the age of digitization. Miraz *et al.* (2016) carry out a trait analysis on the websites of certain organizations, considering Herzberg’s “Theory of Motivational Factors”. This study aims to contribute, even with its limitations, to cover this gap in the literature.

Figure 2. “Digital” factors in Herzberg’s Motivation Theory



p-ISSN: 1390-6291; e-ISSN: 1390-8618

Herzberg talks about two types of factors: those that create motivation (motivational), and those whose absence results in demotivation. Among experts, the terms motivation and satisfaction are mixed when mentioning the basis of this theory (Khoshnevis & Tahmasebi, 2015). The effect for the organization is that if it eliminates the factors that create dissatisfaction, i.e., it provides only motivational factors, without guaranteeing the satisfaction of its workers (Ghahremani *et al.*, 2014).

The originality of this work is that they are added to the two groups of traditional factors, both motivational and recreational, some of new appearance, typical of the digital age, and that, inevitably, form or will gradually form part of the usual conditions of the employment context (Figure 2).

Tables 1 and 2 show the items in which the above factors have been specified. Although this is a limited group, they have been discussed and profiled with experts consulted during the design of the questionnaire used, in the pretest phase, such as those most frequently experienced in the new work environment.

Table 2. New fears to be eliminated by motivational factors in the digital age

Question	Name of the variable
Information systems	
Digitization and automation of jobs increases employee motivation.	Motivational
contacting through networks expands my world as a worker.	Networks
having information through Cloud Computing or Big Data, makes my job easier.	Bigdata
under the current framework; in the face of the fourth industrial revolution (Industry 4.0), the reality "M2M" (machine to machine), i.e., the transmission and management of information between machines, will be positive for a more efficient development of work.	M2M
in general, using new digital technologies in my work motivates me.	General
i consider a continuous digital training/update policy for employees to be very motivating in today's era.	Formdig
Working and relation contexts	
Working with colleagues from different degrees of digital culture (babby boomers, generation X, generation Z or millennials...) is motivating.	Millennia
I like that new technologies allow me to work collaboratively with other people.	Colaborative
Working in large, and open physical spaces that promote interrelationship and transparency between colleagues, and not in separate spaces, is motivating.	Open
Having the ability to work from physical spaces other than my job or company (telework) is motivating.	Telework
I am motivated to work on diversity, called "hybridization contexts", i.e., with people from different areas of knowledge, of different cultures, with different points of view.	Diversity
I am motivated by the fact that organizations tend to "holocracy", i.e., to be able to dispense with positions or managers, given the preparation and autonomy of workers, and their linkage in multidisciplinary teams, or hybrids, that work collaboratively.	Holocracy

Retos, 9(18), 2019

2. Materials and method

The research focuses on the business of the Bay of Algeciras, an international business area that houses the second Spanish industrial hub and the first Mediterranean port by volume of goods; this structure requires a continuous digitization of core businesses and derivatives, with their advantages and disadvantages.

A sample of 180 entities is selected from the business by stratified random sampling. Each company is sent a cover letter of the study, requesting its collaboration and guaranteeing the anonymity of the data and its exclusive use for the research. The letter is addressed to the person responsible for the department or area of Human Resources so that it will be the area most sensitive to the subject matter. Of these, and after a clean-up process, there is a final sample of 114 elements.

This is an exploratory study, based on quantitative methodology. The instrument for the collection of workers' perceptions is an *ad hoc* designed questionnaire, because although the literature offers various models to measure motivation, placing it in a digital context is new. The questionnaire is previously validated, firstly, by pretest by HR experts who assisted in the clean-up, complementing its wording for greater consistency and intelligibility, and secondly by the Cronbach Alpha statistic reliability test, resulting from 0.896, being validated by being higher than 0.7 according to the literature (Corbetta, 2010).

The person to which the letter is addressed is asked to transfer it and the questionnaire to two employees of his organization, without putting conditions in terms of age, sex, age, position, training, department..., trying not to distort the sample.

In the questionnaire, the opinions are reflected through a Likert scale, with 1 being the minimum possible value, which implies "Completely disagree", and 5 the maximum value, which implies a "Completely agree". The data is processed with IBM SPSS.25 statistical software.

The participant is asked a series of questions to define his sociodemographic profile. These are nominal qualitative variables, whether binomial (sex) or multinomial (age, sector and size). To operate in their analysis, the categories are renamed, and since the sample barely exceeds one hundred cases, categories are added for some variables to contemplate a greater number of elements. These changes are indicated in Table 3 (1st transformation).

Table 3. Coding of sociodemographic variables

	Sociodemographic profile variables (1st transformation)	Sociodemographic profile variables (2nd transformation: binary)
Variable	**Categories**	**Categories**
Gender	0.Woman: 46 1.Man 68	
Age	0.No young (older than 35 years old): 65 1.Young (until 35 years old): 49	

	Sociodemographic profile variables (1st transformation)	Sociodemographic profile variables (2nd transformation: binary)
Variable	**Categories**	**Categories**
Sector	1. EDUCA: 31 (Education) 2. TPTE: 14 (Automotive,transport) 3. SECUND: 23 (Chemical Industry + Mining, Pharmaceutical, Sanitary + Construction) 4. SERVICE: 31 (Services to companies + Finance +Recreational, cultural, leisure services) 5. COMHOST: 15 (Food, hospitality, catering)	0. EDUCA+TPTE 1. Rest (SECUND+SERVICE+COMHOST)
Size	1.MICMIN (up to 49 workers): 43 2. SME (50 to 249 workers): 28 3. BIG (out of 250 or more workers): 43	0.GRANDE 1.MICMIN+SME

3. Results

3.1. *First Results*

All proposed motivational factors get average scores above 3, i.e., they are accepted as such. They clearly highlight the motivations generated by working in "hybridization contexts", with people from different areas of knowledge, from different cultures, with different points of view, and by enjoying a continuous formative policy that the company has for its employees. Their respective typical deviations are the lowest of the entire list (table 4).

Table 4. Main descriptive of the factors

	Mín.	Máx.	Media	Desv.		Mín.	Máx.	Mean	Desv.
Motivac	1	5	3.202	0.833	**Nofear**	2	5	3.246	1.052
Networks	2	5	4.009	0.804	**Nonetworks**	1	5	3.272	1.099
Bigdata	2	5	3.904	0.902	**Nobigdata**	1	5	3.465	1.138
M2M	2	5	3.570	0.704	**Nosecurity**	1	5	2.763	1.292
General	2	5	4.123	0.742	**Noplagiarism**	1	5	2.921	1.256
Formdig	3	5	4,246	0.659	**Noprivacy**	1	5	2.526	1.146
Millennia	1	5	3.921	0.864	**Trheat**	1	5	2.807	1.233
Colaborative	2	5	4.070	0.725	**Nodespersonalization**	1	5	3.105	1.100
Open	1	5	3.921	1.090	**Nounit**	1	5	2.570	0.902

Retos, 9(18), 2019

	Mín.	Máx.	Media	Desv.		Min.	Max.	Mean	Desv.
Telework	2	5	3.895	0.813					
Diversity	3	5	4.281	0.698					
Holocracy	1	5	3.202	1.099					

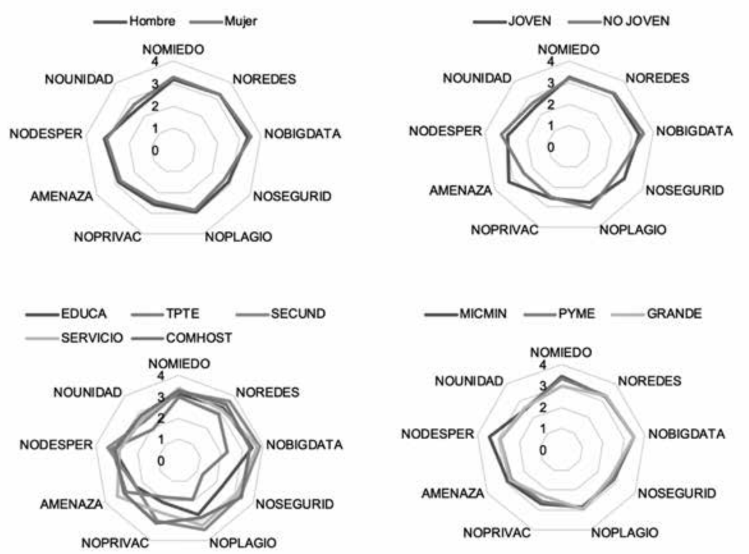
Those rated as fears to motivate are more irregular. The possibility of working with false data, the lack of personal closeness that entails communicating through networks, the fear of being replaced by computer systems and machines and the depersonalization that can lead to the progressive automation of tasks are the most feared. Factors related to lack of security, plagiarism, non-privacy of particular information, the feeling of being threatened by progressive automation and the risk that the commodification of tasks will lead to the loss of unity of the collective of workers show averages below 3. However, a common factor in all of them is that their typical deviations are also high, some participants do not consider them at all to fear, giving them 1, while others grant them the highest value 5.

It is therefore appropriate to consider, and this is what the present work focuses on, to see if there are different behaviors between the different categories of the different sociodemographic variables called profile variables, i.e., if it is possible to associate "digital" fears (dependent variables, if any) with certain genders or age, or to economic sectors, or to group of sizes of companies, where they can be experienced to a greater extent (independent or control variables).

3.2. Study of associations

In a first step, the means of the different categories of each of the variables are analyzed (Figure 3). It is observed that in the gender category the means of the various factors are similar, practically the graphic profiles overlap. For the two codified ages, young and non-young, there seems to be a clear difference in THREAT, more perceived by young people. It can also be checked in NOSECURITY, albeit more slightly. Diversity is greater in terms of the categories of the sector variable, where differences in NOBIGDATA, NOSECURITY, NOPLAGIARISM, NOPRIVACY, THREAT and NOUNIT are suspected. Transport and Education appear to be the sectors where such fears are minor; secondary and services have higher rate. With regard to the size of the company, those with less than 50 employees have more rate of NODESPERSONALIZATION, and less evidently in NOFEAR and NOPRIVACY, along with SMEs.

Figure 3. Mean comparison of motivational factors



By checking the contingency tables, the categories of the Sector and Size variables are grouped to convert them into binary variables. The process is logically done by joining in the same group the categories that have shown to have a similar distribution (table 3, 2nd transformation). From this transformation, normality tests are performed as the starting element of the association measures to be used. For all bicategorical distributions of profile variables, the Kolmogorov-Smirnov and Shapiro-Wilk tests show that these distributions are not normal (sig.<0.05).

The successive null hypotheses, and their corresponding complementary hypotheses are established from the results obtained in the mean calculation of the variables to be adapted for the different categories:

Gender:

H01n: no se da asociación entre la variable Sexo y la variable NOMIEDO. Las medias de las distribuciones de sus categorías son iguales.
H01n: No association between the Gender variable and the NOFEAR variable. The means of the distributions in the categories are the same.
H11n: there is association between the gender variable and the NOFEAR variable. The means of the distributions in the categories are not the same.

Similar hypotheses are raised with:

Age: *H02 and H12 (THREAT); H03 and H13 (NOSECURITY).*

Sector:

Retos, 9(18), 2019

H04 and H14 (NOBIGDATA); H05 and H15 (NOSECURITY); H06 and H16 (NOPLAGIARISM); H07 and H17 (NOPRIVACY), H08 and H18 (THREAT); H09 and H19 (NOUNIT).

Size:

H010 and H110 (NODESPERSONALIZATION); H011 and H111 (NOFEAR); H012 and H112 (NOPRIVACY).

For the contrast of these pairs of obtained hypotheses, Mann-Whitney's non-parametric U test is performed, which leads to rejecting some of the null hypotheses, indicating association. This, along with the contingency tables, the Chi-square test for the calculation of the correlation coefficient (A) and the risk estimate (RR) lead to a few first interpretations:

Gender:

H11.3: is related with the variable NOBIGDATA.
Chi-Square: Confirms the statistical significance (Sig.<0.05): 0.042
Interpretation (RR): A man fears 2,952 times more of this issue than a woman.

H11.8: relation with NODESPERSONALIZATION.
Chi-Square:0.004
Interpretation: A woman fears 3,241 times more with this variable than a man.

Age:

H12: relation with THREAT.
Chi-Square:0.008
Interpretation: A young person (up to 35 years old) fears 2,968 times more of this issue than a non-young person,

Sector:

Relation with NONETWORKS.
Chi-Square: 0.008
Interpretation: a person working in sectors other than Education and Automotive and Transport fears 2,879 times in this topic than a person working in these sectors.

H15: relation with NOSECURITY.
Chi-Square: 0.000
Interpretation: a person working in the Education and Automotive and Transport sectors fears 5,882 times more in this topic than a person who does not work in these sectors.

H16: relation with NOPLAGIARISM.
Chi-Square: 0.002
Interpretation: a person working in the Education and Automotive and Transport sectors fears 3,428 times in this topic than a person who does not work in these sectors.

H17: relation with NOPRIVACY.
Chi-Square: 0.014
Interpretation: a person working in the Education and Automotive and Transport sectors fears 2,684 times more in this topic than a person who does not work in these sectors.

p-ISSN: 1390-6291; e-ISSN: 1390-8618

Size:

H111: relation with NOFEAR.
Chi-Square: 0.009
Interpretation: a person working in micro companies or small and medium-sized enterprises fears 3,032 times more in this topic than a person who works in a large company.

H112: relation with with NOPRIVACY.
Chi-Square: 0.032
Interpretation: a person working in a large company fears 2,374 times more in this topic than a person who does it in micro-enterprises or in small and medium-sized enterprises.

The number of participants is slightly higher than 100 in the total sample, not so in subsamples by categories. However, the decision to make the hypothesis contrast is made as if the distributions were normal by using the t-Student mean comparison test between the distributions of each profile variable. The results agree for the Sex, Age, and Sector variables, with equal or similar ρ, confirming statistical significance. There is only a match for the Size variable, i.e., the test only points to relation for the variable NOPRIVACY.

Risk has been used, RR, as a measure to know the influence of one category over the other. However, it is possible to deepen on other types of studies to confirm or not, these first conclusions. To do this, the binary logistic regression of each dependent variable is used according to the first conclusions for each category of the profile or control variables. These have previously been categorized, taking values 4 and 5 as "Does fear", and the rest, 1, 2 and 3, as "Does not fear".

Table 5. Summary of Association Measures Found

Variable profile	Dependent variable	r	OR	IC95% de la OR		Predicted	
				Lower	Upper	0	1
Sex	Nobigdata	.048	.339	.116	.991	100%	0.00%
	Nodespersonalization	.005	3.239	1.435	7.313	100%	0.00%
Age	Threat	.009	.337	.149	.762	100%	0.00%
Sector (recoded)	Nonetwork	.009	.347	.158	.766	50.8%	73.6%
	Nosecurity	.000	5.875	2.556	13.505	79.7%	60.0%
						Total: 70.2%	
	Noplagiarism	.002	3.429	1.561	7.528	72.7%	56.3%
	Noprivacy	.015	2.685	1.208	5.971	73.5%	42.9%
Size	Nofear	.010	.330	.141	.769	100%	0.00%
	(recoded)	.034	2.374	1.067	5.283	73.5%	46.2%

Retos, 9(18), 2019

Instead of RRs, logistic regressions show the ORs, i.e., the relationship between the opportunity for the event to occur in the subgroup encoded as 1 for each control variable, i.e., that its members are afraid of the circumstance studied, as faced with the opportunity for it not to occur. Correlation coefficients, r, OR, the lower and higher values, as well as the percentage of successfully predicted values (which match the real ones) in the case of integrating that variable into a dependency model or association are exposed in the Table 5.

For dependents: NOBIGDATA, as regards Gender, THREAT, in terms of Age, NONETWORKS, in relation to the Sector and NOFEAR, as regards Size, its lower and upper margins, by not reaching the unit, indicate a reduction in the strength or possibility of associations being studied.

In the relation between NODESPERSONALIZATION and gender, the unit is not covered by that margin. However, this is relatively broad, about six points. The variable has high specificity, but low sensitivity: using it to predict the response to the NODESPERSONALIZATION variable would hit 100% of the values when it comes to women, but 0% for men. Therefore, it is not a good predictor variable. The same is true of other possible relationships.

In the case of dependent NOSECURITY and its potential association with the Sector, r and OR agree with those obtained in the first estimates. The margin between the lower and upper values is, however, really wide. Its predictor capacity, even though it is the largest of the entire panel being analyzed - 79.7% for those belonging to Education, Automotive and Transport, and 60.0% for those who do not belong to them- is still low 70.2%.

Finally, as for the NOPRIVACY variable, the measures r and OR are practically matched with those found in Chi square and RR study for the variables control, sector and size. Its margins are the smallest, with less than five points of difference. However, low predicting capabilities continue to be in both cases. Could a modelling of this variable be considered in relation to the Sector and Size control? The low prediction does not provide successful theoretical model. Even so, and taking into account the possible phenomena of interaction and confusion with the other profile variables, it proceeds to its study, since establishing an equation for motivation will allow managers to intervene when the level is required (Quijano and Navarro, 2012).

3.3. Possible logistic regression model for NOPRIVACY

In principle, the model should contain only two control variables, sector and size. After analyzing the possible interactions between Sector and Gender, or Sector and Age, and between Size and Gender, or Size and Age, none of the cases presents clear evidence of interactions. The gender variable is valued to be included in the equation or model, because the interaction term Size*Gender is the only one with statistical significance (0.019).

Once the interaction is discussed, the possibility of confusion between the control variables is studied. After assessing the set of recommendations given by the experts (Aguayo & Lora, 2007) to make a decision on this (table 6) it is concluded that the age variable causes confusion in that of Sector, so it will be included in the model to be treated.

Table 6. Study of the confusion possibility between variables

Conditions	Sector and Gender	Sector and Age	Size and Gender	Size and Age
OR	Before 2.685 Now 2.744	Before 2.685 Now 4.044	Before 2.374 Now 2.353	Before 2.685 Now 2.967
OR Variation >10%	No	Yes	No	Yes
Non-substantial change in the confidence interval	Yes	NOo. It Increas-es	SÍ	NO. Lo aumenta.
No modification in Wald's signif-icance statistics	Yes	Yes	Yes	Yes
Statistical significance of the confusion variable	No	Yes (0.047)	No	No
The confidence interval does not contain the null value (=1)	NO	SÍ (por muy poco)	NO	NO
Decision	Reject confusion	Reject confusion	Reject confusion	Reject confusion

Table 7 shows the main indicators evaluating the goodness of an adjustment made by logistic regression. Although none of the proposals create a model that complies with all of them, it is the third the one that is closer, i.e., once the starting control variables, Sector and Size are added to the one that interacts with Size (Sex) and the one that causes confusion with Sector (age).

Table 7. Indicators of the model variables

		B	Standard error	Wald	gl	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	AGE(1)	-1.22	0.498	5.999	1	0.014	0.295	0.111	0.784
	SECTOR(1)	1.359	0.492	7.633	1	0.006	3.891	1.484	10.202
	SIZE(1)	0.955	0.466	4.197	1	0.04	2.598	1.042	6.478
	GENDER(1)	-0.231	0.421	0.3	1	0.584	0.794	0.348	1.813
	Constant	0.222	0.375	0.353	1	0.553	1.249		

Although the sex variable has no statistical significance, even for very little, the rest does, confirming that they justify the dependent variable NOPRIVACY. The greatest strength in this relationship is created by the variable Sector (Exp (B)= 3.891, the furthest from the unit, followed by Size (Ex(B) =2.598, which were the variables indicated from the start of this analysis as the most predicted capacity for NOPRIVACY.

Looking at the sign of B, the meaning of the explanation or causal relation, can be observed that a non-young person (over 35 years old) fears this issue more

Retos, 9(18), 2019

than a young person; that people who do not work in the Education and Automotive and Transport sectors are the most fearful in this regard; and that those that do so in micro-enterprises and SMEs are more so than those working in big enterprises.

Nevertheless, the model would suffer adequate goodness in its fit, given the low percentages of successful prognosis, so it is decided not to build it.

4. Conclusions and discussion

The study shows a clear acceptance of the proposed motivational factors, and a greater difference in the assessment of "digital fears", especially when categorized by economic sectors.

As for the motivations, no studies have been found that have included issues similar to those raised in this research, located in the digital age. However, research from recent years, such as Shannon's (2017), confirms that honest and open peer communication, as well as recognition of the work well done are two of the most powerful motivators (in this case, in the public Australian sector). Set in technology, Li *et al.* (2004) had used Herzberg's Theory to measure the development of the data processing service, both its economic possibilities and the acceptance of its usefulness by the market, at its various stages. However, they did not address the motivational factors or the factors to be adapted for a current worker in the digital age. Much more recently, Mamedov *et al.* (2019) concern the importance of the Russian and Azerbaijani employees and employers in the desire or motivation of Russian and Azerbaijani employees and employers to develop their own human capital and that of the company, the various visions or characteristics of the different generations of colleagues they share with: Generation X, Generation Y (millennials) and Generation Z, within the framework of the Fourth Industrial Revolution. As a feature of today's times, Jarupathirun and De Gennaro (2018) analyze the rotation level in the employment in Bangkok, Thailand, and, through herzberg's Theory, relate it to aspects at work. Thus, they conclude that relationship with colleagues, recognition, job security and remuneration are the most important factors in choosing to leave a company. Much less impact have issues such as achievement, the importance of work, growth, company policy and relationships with supervisors. Abolhoseini *et al.* (2018) conclude that quality at work, responsibility assumed, category of responsibility, safety and wages are the most valuable motivators among the workers consulted (rehabilitation therapists in the Tehran area). This study also shows a clear relationship between the sociodemographic variable age and the level of work motivation. Warrier *et al.* (2018) frame their analysis in a work activity typical of the digital age, the IT (Information Technology) sector specifically in India, finding that, contrary to what Herzberg's own Theory contends, motivational factors play a more important role in predicting job satisfaction in this sample, an issue attributed to cultural differences versus the West. But again, studies take the traditional factors of Herzberg's Theory, without contributing, as this work does, to new factors typical of the implementation of the digital age. Escardibul and Afcha (2017) include in their study new variables, typical of the environment, social and work of a university doctor, but none related to the digital age.

This paper concludes that there is an association between certain sociodemographic profile variables and several of the fears discussed, especially strong between the industry-sized variables in terms of fear of losing privacy in the face of digital connection over networks at work. Using a possible model to represent this relationship, it is decided to discard it by poor adjustment in the forecast of the values.

The work is not without limitations. Thus, the items do not have a firm foundation in the literature, given the novelty of the topic, although it has been solved by the intervention of experts, so it is a relative limitation. The sample, even exceeding one hundred, is made up of a small number of participants. It would be appropriate to work with larger samples, as well as in other territories and at different moments over time, to study the possible change in the behavior on the same topic. On the other hand, by grouping quantitative variables into two categories: 'Does fear', or 'Does not fear' it is known about the loss of some of the information, although it is the path taken to be able to carry out a logistic regression analysis.

In addition to what has already been mentioned on similar studies with other population samples, an alternative analysis of the information collected is proposed, which is that of an exploratory factorial analysis of the variables, adding them in constructs of more information, and a subsequent confirmatory factorial analysis; and this is both for motivational factors and for those requiring motivational measures. The dependency or association would last be carried out, starting from the new variables resulting from these constructs.

However, being a first approximation, it is novel to provide characteristic factors of the digital working environment, and in particular from the approach of Herzberg's Motivation Theory. Studies like this can be useful to all kinds of managers, as it is to be assumed that every manager seeks to achieve a healthy and motivating environment and would activate motivational measures to alleviate those fears. But above all, it will serve those who raise their work from the "Happiness Management" model, under the conviction that eliminating dissatisfaction is part of the path to a greater performance.

References

Abolhoseini, E., Mobaraki, H., Kamali, M., *et al.* (2018). Relationship Between Performance Evaluation and Therapists' Job Motivation of Rehabilitation Centers and Public Hospitals of Tehran Based on Herzbergs' Two-Factor Model. *Archives of Rehabilitation*, *18*(4), 316-327. https://doi.org/10.21859/JREHAB.18.4.6

Aguayo, M., & Lora, E. (2007). Cómo hacer una regresión logística binaria "paso a paso": análisis multivariante. Docuweb FABIS, Recuperado de https://bit.ly/2ZgksQ5 [Fecha de consulta: 14 de mayo de 2019].

Arslan, M., & Roudaki, J. (2019). Examining the role of employee engagement in the relationship between organisational cynicism and employee performance. *International Journal of Sociology and Social Policy*, *39*(1-2), 118-137. https://doi.org/10.1108/IJSSP-06-2018-0087

Baptiste, N.R. (2007). Tightening the link between employee well-being at work and performance. *Management Decision*, *46*(2), 284-309. https://doi.org/10.1108/00251740810854168

Bashir, M., Saleem, A., & Ahmed, F. (2019). Akhuwat: Measuring Success for a Non-profit Organization. *Asian Journal of Management Cases*, *16*(1), 100-112. https://doi.org/10.1177%2F0972820119825973

Cech, P., Beranek, M., & Chromy, J. (2015). Job Satisfaction of Managers Working for Hotels And Hotel Chains in the Czech Republic. En: *26th International-Business-Information-Management-Association Conference*, November, 11-12. Innovation Management and Sustainable Economic Competitive Advantage: from Regional Development to Global Growth Vols. I-V, pp. 668-676. Recuperado de https://bit.ly/2Wyc55F

Corbetta, P. (2010). *Metodología y Técnicas de Investigación Social*. Madrid, España: McGraw-Hill/Interamericana.

Cropanzano, R., & Wright, T.A. (2001). When a "Happy" Worker Is Really a "Productive" Worker: A Review and Further Refinement of the Happy-Productive Worker Thesis. *Psychology Journal Practice and Research*, *53*(3), 182-199. https://psycnet.apa.org/doi/10.1037/1061-4087.53.3.182

Emiroglu, O., Guneyli, A., & Burgul, N. S. (2017). Motivational Sources of Teachers in a Developing Country. *Revista de Cercetare si Interventie Sociala*, *57*, 51-66. https://search.proquest.com/docview/1923729164?accountid=32861

Escardibul, J.-O., & Afcha, S. (2017). Determinants of the job satisfaction of PhD holders: an analysis by gender, employment sector, and type of satisfaction in Spain. *Higher Education*, *74*(5), 855-875. https://doi.org/10.1007/s10734-016-0081-1

Fisher, C. (2010) Happiness at work. *International Journal of Management Review*, *12*(4), 384-412. https://doi.org/10.1111/j.1468-2370.2009.00270.x

Gaitan, I., Breton, D. C., Urbano, H. L. C., Mahecha, C., & Arteaga, M. (2015). Todo es cuestión de actitud. Gestión de la felicidad. *Harvard Deusto Business Review*, 6-17. Recuperado de https://bit.ly/2WsYqrJ [Fecha de consulta: 30 de mayo de 2019].

Ghahremani Germi, N., Ghahremani Germi, M., & Delghavi, E. (2014). The effect of management factors and job satisfaction on human resources efficiency: A case study of paramedical employees of public hospitals in Ardabil. *International Journal of Organizational Leadership*, *1*(1), 18-37. http://dx.doi.org/10.33844/mihs.2015.60247

González-Díaz, J., Ochoa-Dearco, E., & Cardona-Arbeláez, D. (2018). Modelo conceptual de Gerencia de la Felicidad. *Orbis. Revista Científica Electrónica de Ciencias Humanas*, 17-32. Recuperado de https://bit.ly/2WsYxDA [Fecha de consulta: 20 de mayo de 2019].

Herzberg, F., B. Mausner, B. & Snyderman, B. B. (1959). *The motivation to work*. New York: Wiley.

Hosie, P.; Sharma, P., & Kingshott. R. P.J. (2019). Happy-performing managers thesis Testing the mediating role of job-related affective outcomes on the impact of role stressors on contextual performance. *International Journal of Manpower*, *40*(2), 356-372. https://doi.org/10.1108/IJM-04-2018-0124

Jarupathirun, S. & De Gennaro, M. (2018). Factors of work satisfaction and their influence on employee turnover in Bangkok, Thailand. *International Journal of Technology*, *9*(7), 1460-1468. https://doi.org/10.14716/ijtech.v9i7.1650

Kang, J. H., Matusik, J. G., Kim, T. Y., & Phillips, J. M. (2016). Interactive effects of multiple organizational climates on employee innovative behavior in entrepreneurial firms: A cross-level investigation. *Journal of Business Venturing*, *31*(6), 628-642. https://doi.org/10.1016/j.jbusvent.2016.08.002

Khoshnevis, H., & Tahmasebi, A. (2016). The Motivation System in a Governmental Organization. En McKenna, B., Ardabili, F. S., y Faghih, N. (Eds.), *3rd International Conference on New Challenges in Management and Business: Organization and Leadership, 2 May 2016*, (pp. 212-218). Dubai, UAE. https://doi.org/10.1016/j.sbspro.2016.09.027

Koenes, A. (1996). *Gestión y motivación del personal*. Madrid, España: Ediciones Díaz de Santos.

Li, R.P., Rong, R., & Lu, T.J. (2004). Managing the relationship of technology and market in different stages of data service development. En *6th International Conference on Computer Communication (ICCC 2004)*, September 15-17. Beijing, Republic China.

López, J.P., & Fierro, I. (2015). Determinantes de la felicidad en los administradores: una investigación realizada en las farmacias del Grupo Difare en Ecuador. *Universidad & Empresa*, *17*(29), 181-211. https://dx.doi.org/10.12804/rev.univ.empresa.29.2015.08

p-ISSN: 1390-6291; e-ISSN: 1390-8618

López, J. (2005). Motivación laboral y gestión de recursos humanos en la teoría de Frederick Herzberg. *Rev Invest Fac Ciencias Administrativas UNMSM*, Julio 2005, 25-36. Recuperado de https://bit.ly/2Km346j [Fecha de consulta: 30 de abril de 2019].

Mamedov, Z. F.; Mineva, O. K.& Glinchevskiy, E. I. (2019). Innovative Approach to Human Capital Management under conditions of strong turbulence of Fourth Industrial Revolution. En Ibrahimov, M., Aleksic, A., y Dukic, D. (Eds.), *37th International Scientific Conference on Economic and Social Development- Socio Economic Problems of Sustainable Development*, febrero 14-15, (pp. 1518-1525). Baku, Azerbaijan. Recuperado de https://bit.ly/2MFhqDC

Meyers, M.C., van Woerkon, M., & Bakker, A.B. (2013). The added value of the positive: a literature review of positive psychology interventions in organizations. *European Journal of Work and Organizational Psychology*, *22*(5), 618-632. https://doi.org/10.1080/1359432X.2012.694689

Miraz, M., Excell, P.S., & Maaruf, A. (2016). User interface (UI) design issues for multilingual users: a case study. *Universal Access in the Information Society*, *15*(3), 431-444. https://doi.org/10.1007/s10209-014-0397-5

Moccia, S. (2016). Felicidad en el trabajo. *Papeles del Psicólogo*, *37*(2), 143-151. Recuperado de https://bit.ly/2R3Iond [Fecha de consulta: 30 de mayo de 2019].

Petersen, E., Wascher, M., & Kier, K. (2017). Analysis of pharmacy student motivators and deterrents for professional organization involvement. *Currents in Pharmacy Teaching and Learning*, *9*(4), 543-550. https://doi.org/10.1016/j.cptl.2017.03.024

Price, S., & Reichert, C. (2017). The importance of continuing professional development to career satisfaction and patient care: meeting the needs of novice to mid-to late-career nurses throughout their career Span. *Administrative Sciences*, *7*(2). https://doi.org/10.3390/admsci7020017

Quijano, S.D., & Navarro, J. (2012). La autoeficacia y la motivación en el trabajo. *Apunt. Psicol*, *30*(1-3), 337-349. Recuperado de https://bit.ly/2I5kWmA [Fecha de consulta: 15 de mayo de 2019].

Rahman, K.-U., Akhter, W., & Khan, S.U. (2017). Factors affecting employee job satisfaction: A comparative study of conventional and Islamic insurance. *Cogent Business & Management*, *4*(1). https://doi.org/10.1080/23311975.2016.1273082

Ravina, R., Villena, F., & Gutiérrez, G. (2017). Una aproximación teórica para mejorar los resultados de innovación en las empresas desde la perspectiva del "Happiness Management. *Retos. Revista de Ciencias de la Administración y Economía*, *7*(14), 113-129. http://dx.doi.org/10.17163/ret.n14.2017.06

Rizkallah, E. G., & Seitz, V. (2017). Understanding student motivation: a key to retention in higher education. *Scientific Annals of Economics and Business*, *64*(1), 45-57. https://doi.org/10.1515/saeb-2017-0004

Robbins, S., & Judge, T. (2009). *Comportamiento Organizacional. Decimotercera edición*. México: Pearson Educación.

Romero-Rodríguez, L.M., Castillo-Abdul, B., & Ravina, R. (2019). Comunicación para la efectividad laboral y el Happiness Management: revisión crítico-analítica de la literatura. *Revista Mundo Indess*, *1*(1), 17-27. Recuperado de https://bit.ly/2EX2R8c [Fecha de consulta: 10 de mayo de 2019].

Shannon, E.A. (2017). Motivating the workforce: Beyond the 'two-factor' model. *Journal of the Australian Healthcare & Hospitals Association*, *43*(1), 98-102. https://doi.org/10.1071/AH16279

Taipale, S., Selander, K., Anttila, T., & Nätti, J. (2011). Work engagement in eight European countries: the role of job demands, autonomy, and social support". *International Journal of Sociology and Social Policy*, *31*(7-8), 486-504. https://doi.org/10.1108/01443331111149905

Torkaman, F., Farhang, S., Zakerian, S.A., *et al.* (2017). A study on the effect of job burnout and stress on job satisfaction among teachers of exceptional schools. *Pharmacophore*, *8*(5), 18-24. Recuperado de https://bit.ly/2F2vErU [Fecha de consulta: 24 de abril de 2019].

Verma, P., & Sharma, D. (2018). Quality of Work Life in Academics with reference to Motivational Theories. *Pacific Business Review International*, *11*(4), 159-165. Recuperado de https://bit.ly/2K4DkOB [Fecha de consulta: 10 de mayo de 2019].

Warrier, A. G., & Prasad, R. (2018). Motivators, Hygiene Factors and Job Satisfaction of Employees in IT Sector in India. En *7th International Conference on Computing, Communications and Informatics (ICACCI), September 19-22*, pp. 477. Bangalore, India; IEEE. https://doi.org/10.1109/ICACCI.2018.8554403

Zelenski, J.M., Murphy, S.A., & Jenkins, D.A. (2008). The Happy-Productive Worker Thesis Revisited. *Journal of Happiness Studies*, *9*(4), 521-537. https://doi.org/10.1007/s10902-008-9087-4

Retos, *9*(18), 2019
Revista de Ciencias de la Administración y Economía | ISSN impreso: 1390-6291; ISSN electrónico: 1390-8618
www.retos.ups.edu.ec

"Happiness Management»: Review of scientific literature in the framework of happiness at work

«Happiness Management»: Revisión de literatura científica en el marco de la felicidad en el trabajo

Dr. Juan Francisco Sánchez-Vázquez is a profesor and researcher at Universidad Pontificia de Salamanca (Spain) (jfsanchezva@upsa.es) (http://orcid.org/0000-0002-3759-6245)

Dra. Raquel Sánchez-Ordóñez is a profesor and researcher at Universidad Pontificia de Salamanca (Spain) (rsanchezor@upsa.es) (http://orcid.org/0000-0003-4439-9896)

José Santiago Jimbo Días es profesor e investigador de Cuenca (Ecuador) (santiago.jimbo@ucuenca.edu.ec) (https://orcid.org/0000-0002-2823-4285)

Abstract

The changes in the world of work and organizations and their impact on people's lives have raised a new way of approaching the relationship between work and happiness. A bibliometric study is carried out of the works on the economy of happiness that have been published in Spanish between 2000 and 2018. To do so, the EDS-Multidisciplinary search engine (EBSCO Discovery Service) is used, selecting 95 publications that deal with this subject. As a result of the study a greater production of theoretical approaches is found on the subject as opposed to empirical research. In the latter, the works are fundamentally analyzed from the economic and psychological perspective. The clearly growing trend of scientific production on happiness and work has two important aspects: On the one hand, the very time of great changes, which emerges continuously new explanatory and prescriptive paradigms; and, on the other hand, this increase agrees with the end of the economic crisis. Overcoming and leaving behind the preoccupations of this great imbalance of the world economic system has once again focused the interest on making companies more productive and humane, preserving occupational health and improving personal development. In this sense, the urgent need for a multidisciplinary approach to this area from empirical research that contributes to improving relations between the world of work and the subjective well-being of people is highlighted.

Resumen

Los cambios en el mundo del trabajo y de las organizaciones y su impacto en la vida de las personas han planteado una nueva forma de abordar las relaciones entre trabajo y felicidad. Se realiza un estudio bibliométrico de los trabajos que sobre economía de la felicidad se han publicado en lengua española desde el año 2000 hasta el 2018. Para ello, se utiliza el buscador EDS-Multidisciplinar (EBSCO Discovery Service), seleccionándose 95 publicaciones que tratan esta temática. Como resultado del estudio encontramos una mayor producción de abordajes teóricos sobre el tema frente a la investigación empírica. En ésta última, los trabajos son fundamentalmente analizados desde la perspectiva económica y la psicológica. La tendencia claramente creciente de la producción científica sobre felicidad y trabajo tiene dos vertientes importantes: Por un lado, el propio tiempo de grandes cambios, que hace surgir continuamente nuevos paradigmas explicativos y prescriptivos; y, por otro lado, coincide este incremento con el fin de la crisis económica. Superar y dejar atrás las preocupaciones de este gran desequilibrio del sistema económico mundial, ha vuelto a centrar el interés por hacer más productivas y humanas las empresas, preservando la salud laboral y mejorando el desarrollo personal. En este sentido se destaca la imperiosa necesidad de un abordaje multidisciplinar de esta área desde la investigación empírica, que contribuya a mejorar las relaciones entre el mundo laboral y el bienestar subjetivo de las personas.

Keywords | palabras clave

Happiness and work, subjective wellbeing, positive psychology, leadership, happiness management, positive and healthy organizations, work and change, economy of happiness.
Felicidad y trabajo, bienestar subjetivo, psicología positiva, liderazgo, gestión de felicidad, organizaciones positivas y saludables, trabajo y cambio, economía de la felicidad.

Suggested citation: Sánchez-Vázquez, J.F., & Sánchez-Ordóñez, R. (2019). "Happiness Management»: Review of scientific literature in the framework of happiness at work. *Retos Journal of Administration Sciences and Economics, 9*(18), 249-260. https://doi.org/10.17163/ret.n18.2019.05

Received: 05/31/19 | Reviewed: 06/22/19 | Approved: 07/14/19 | Published: 10/01/19

Retos, 9(18), 2019

1. Introduction

Due to the dynamic trends that constitute our society, from time to time their most stable bases are reviewed and changed, and important progress is made in their configuration. These leaps in the line of progress remove all traditional structures, values, institutions and affect significantly people's lives.

Numerous researchers in recent times have found that the impact of Information and Communication Technologies (ICTs) and Learning and Knowledge Technologies (LKT), along with globalization and other important social factors, have focused on the change in people (Castells, 2008). This is a key fact in the world of work and organizations, where all the ancient paradigms that characterized successful companies and that were followed and prescribed for all organizations have been disauthorized and removed. The neoliberal paradigm of capitalist production was conceived for the population, resources, needs and problems of 250 years ago. The criteria of utility and freedom prevailed and the structures enhanced factors far removed from sustainable and responsible development, solidarity and cooperation, altruism and social protection, the well-being and satisfaction of people, their health and quality of organizational life, and their happiness.

This incompatibility in older systems is unsustainable in the face of the demands of change. Thus, an important current of anthropological, economic, social and psychological thinking has emerged that concentrates in the so-called approach of the "Economy of Happiness" (Rivas, 2015; Frey, 2018). On this, there is no inventor, a pioneer, not a year of birth, nor an organization that pilots its contents, nor these are unique, but there is a story in this approach and it is full of outstanding milestones: among others, the "Easterling paradox", the "Gross National Happiness" index created by Jigme Singye, king of Bhutan, who was followed by alternative rates of GDP collecting concepts such as well-being, equity, justice, environment, free time, life expectancy, education, compassion, solidarity, etc.

In this sense, contributions, including the 1999 Nobel Prize in Economics to two psychologists (Kahneman and Tversky) and in 2001 and 2014 to economists with psychological contributions (Akerloff and Tirole, respectively) are innumerable. It is also important to bring up the consolidation of Positive Psychology and Corporate Social Responsibility, the "Great Place to Work" ranking, as an indicator of happy companies and the declaration, in 2010 by the UN, of March 20 as World Happiness Day.

Faced with the demands of change, within the field of Labor Psychology and Organizations, as in the other Social Sciences, the debate on happiness and the positive has become very interesting (Rodríguez-Muñoz & Sanz-Vergel, 2011). There are already multiple concretions and models that try to highlight the relationships between happiness and work. Therefore, it is important to note as the objective of this study the state-of-the-art in the Spanish literature of existing research on happiness, in order to be able to understand the present and to predict the future in this field.

Many of the recent contributions to this object of study recover the classic hedonistic and eudamonic double vision of happiness, which operate together and emphasize the experience of subjective well-being or target well-being - although social welfare is added-. The equation would go through a set of evaluative experi-

p-ISSN: 1390-6291; e-ISSN: 1390-8618

ences (comparison of achievements, successes and failures, losses, in life), a set of affective experiences (positive and negative experienced emotions and moods) sensory (pleasures and pains felt), as people combine these experiences to different degrees (de los Rivers, 2016; De Barbieri, 2018).

The most consistent life strategy on the path of happiness seems to have two directions: avoid discomfort and achieve a purpose, a sense of life (Thivissen, 2018). This second factor is where everything related to working life can be located. Schnell (as quoted in Retzbach, 2018), describes four characteristics of the meaning of life: the significance - a sense of what is being carried out - the belonging - a feeling that there is a place in the world - coherence - what happens in life is harmonious and congruent - and guidance - knowing the values and objectives that are being defended. Other authors also include generativity - creating something beneficial for later generations.

A similar direction takes the contributions of Positive Psychology (Vera, 2006 and 2008), which configures five characteristics: positive emotions, commitment, interest, meaning and purpose (Seligman, 2011). Ultimately subjective happiness and well-being go hand in hand (Diener, 2000; Popescu, 2016). And for work and organizations, the key to this proposal is personal growth, adding self-esteem, optimism, resilience, vitality, self-determination and positive relationships.

Different models give different concretions to this field (Bakker, Rodríguez-Muñoz & Derks, 2012). For example, Salanova (2010) notes that both structural and social resources, positive psychological capital (self-efficacy, hope, optimism, resilience and linkage) and the institution's results shape the "Positive and Healthy Organization". Also, and from another perspective, financial literacy (financial skills and knowledge) and economic decisions, together with emotions and culture, influence economic well-being, and therefore the happiness of people (Garay, 2015).

Warr's contribution (2013), which employs a vitamin metaphor, highlights the explanatory nonlinearity of sources of happiness and unhappiness at work. On the one hand, it separates environmental and personal factors. Among the first would be "opportunity for the control, opportunity for the use and acquisition of skills, externally generated goals, variety, clarity of the environment, contact with others, availability of money, physical security, social position supervisor support, career development and equity" (p.100). Among the latter would be: "comparisons with other people, comparisons with other situations, comparisons with other eras, assessments of a situation related to self-efficacy, assessment of novelty or familiarity, assessments of personal relevance" (p.102). Likewise, the theory of demand and labor resources of Bakker and Demerouti (2013, as cited in Rivas, 2015, p. 31) explains that:

> [...] the work characteristics can be organized into two categories: demand and labor resources that can be found in almost all jobs and are the triggers of negative (deterioration of health) and positive aspects (motivational process). Job crafting or individual adjustments to demands and resources can make the work environment more engaging, less exhausting, healthier, and more productive.

It also proposes the theoretical model of positive experiences in which personal factors interpret and value the perception of environmental factors, labor and

Retos, 9(18), 2019

extra-labor resources and demands, influencing the degree of subjective well-being (Rodriguez & Cifre, 2012; Cifré & Navarro, 2013).

Like other authors, Sánchez's team (2018) has investigated the concept of "Organizational Happiness" by finding very different concrete factors in the organizations in his sample. Some of these factors of happiness are: managers' concern for well-being, flexible structures, diversity, democracy in decisions and the validity of opinions, achievements are shared and valued, addressed fairly, transparency and ethics, teamwork, innovation, communication, quality and talent are especially careful, and motivational and compensation factors are promotion, incentives, conciliation, appreciation and trust.

On the other hand, in the academic field initiatives and teams are known that are now carrying out transnational empirical studies to study "Happiness Management", which has been defined as a multicultural management model focused on the following resources: creativity, commitment, technological innovation, internal entrepreneurship and social responsibility to develop happiness in organizations and in people. This is how this comprehensive study addresses organizational happiness, which fosters a working climate of innovation, constructive communication and positive emotions, as well as work happiness, a complex set of satisfactions and vital meanings of engagement, trust, team culture and development. One of the projects referred to is the so-called "Happiness Management, creativity and well-being in the age of Industry 4.0 from the perspective of the social sciences and humanities", which sponsored by the Salesian Polytechnic University of Ecuador, brings together thirty researchers from twenty universities around the world. The purpose is to explore how the vectors of creativity, emotional development and social welfare (quality of life, satisfaction, good living or common good) influence - in the age of Industry 4.0.- entirely to the holistic pursuit of the happiness of their human talent. In this way, the highest policy makers, economic and business leaders will be able to cultivate ecosystems and productive links based on the guiding principles of sustainability, innovation, know-how, social responsibility, engagement, knowledge management and collaborative learning.

Also in the organizational field, and mainly in the areas of human resource development and strategic planning, research advancement is required, since different studies find the relationships of organizational happiness with efficiency (Baker, Greenberg & Hemingway, 2007). Thus, Fernandez (2019), using Carter's studies (2017), selects different surveys and studies providing clear evidence that it is necessary to seek that correlation:

p-ISSN: 1390-6291; e-ISSN: 1390-8618

Table 1. Previous studies showing a correlation between happiness and job production

Name or entity	Contribution
Happiness and Productivity (University of Warwick)	Happy employees in their workplace are 12% more productive.
Iopener Institute (Oxford University)	People with higher rates of happiness in their work perform better: they spend 80% of their time on the tasks entrusted. In contrast, the dedication to the tasks they should perform of people with rates of non-happiness at work decreases by up to 40% of their time.
University of California (Berkeley)	Happy people are 86% more creative.
Gallup	A happy company increases customer ratings by 10%, it has 55% less staff turnover, it retains 44% more to its employees, it has 41% less absenteeism, it has 58% fewer security issues, and it has 40% fewer defective products.
Shawn Anchor	The happy, motivated and satisfied worker with their work achieves a 37% increase in sales, 31% in productivity and 19% in efficiency, and unhappy employees have an average of 15 days more sick leave than average.
HBR	A happy employee is 300% more creative and innovative and has 125% less stress.
Hays Group	Happy people are 43% more productive and the cost of replacing an employee is between 50% and 150% of the salary.
Social Market Foundation	Happy employees are 20% more productive.
Forbes	A happy company has 66% fewer job losses.
Greenberg & Arawaka	A happy company is 31% more productive.
Framingham Heart Study	People who surround themselves with happy people have a 25% increased chance of mimicking this mood.

From what is observed in Table 1, it is evident that well-being and productivity environments that respond to the needs and changes of society must be sought, not only by company managers, who have the mission of driving that binomial, but by the employees and skateholders.

Finally, although it is not the subject of this study, it should be noted that critical analyses on the subject of happiness are recurrent. There are two documents that are especially critical in criticism: The paradoxical happiness of Lipovestsky (2014) and the analysis on positive psychology of Lazarus (2003).

Furthermore, despite the contributions made from the Economy of Happiness, it must not be forgotten that "other" realities such as poverty, the submerged economy or precarious employment coexist, situations in which the construct "work" and "happiness" or "happy organizations" hardly have a place.

It is therefore necessary that disciplines such as economics or psychology, among others, acquire more commitment in the solutions of what are still social problems. It should be reverted to Lewinian proposals in which the link between research and action or professional application results in programmes and interventions that lead to social changes, in which a happiness economy for all becomes a reality (Yela & Saiz, 2013). In this way, that model of life can be approached, where subjective well-being and happiness prevail without forgetting that, for this to be possible, they must be included in the political agendas (Morales, Nouvillas & Arias, 2012). All this also fits with the "Economy of the Common Good" - a paradigm that includes the Economy of Happiness - and the Welfare State; realities that need to be further developed.

It is believed that in the development of this area neither of the individual dimensions should be neglected - because further progress should be made in the study of personal happiness and subjective well-being to create assessment tools that reflect the dimensions of the most model collective dimensions-, since happiness-related development rates and objectives contribute to the improvement of societies and communities.

2. Materials and method

With the aim of identifying the interests of researchers in the field of happiness at work and Happiness Management, this analytical and bibliometric study has been chosen in this study by a selection of units of analysis that met a series of criteria that would allow to verify the interest of the authors in the scientific literature of the selected topics in the Spanish language. To this end, scientific documents have been analyzed, whose texts could be obtained from the EDS-multidisciplinary databases (EBSCO Discovery Service). This search engine allows access to full-text databases of scientific publications in different areas.

As for the terms to be analyzed, the following key words were used: happiness economics, happiness at work, work and happiness, and "Happiness Management". These terms are the main ones that must be considered for the search to collect as fully as possible research related to the subject of study. The search was delimited from 2000 to 2018, since the time analysis unit is significant by the change of the millennium. It was also chosen to select only Spanish as the language of the publication. The articles meeting these criteria and which were selected and analyzed have been 95, a number that is considered sufficient to be analyzed in the classification categories of the bibliometric studies of a term.

The analyses have focused on grouping the different elements of this sample source unit, which are expected to be representative by their selection form, into categories that group the studies into the most relevant classifications to evaluate the scientific production. Thus, the production relating to the years, the thematic areas in which the studies have been focused, the type of scientific document, the theoretical

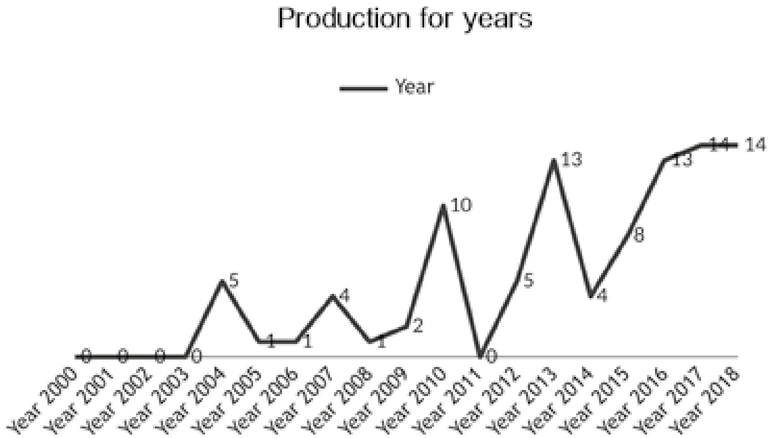
p-ISSN: 1390-6291; e-ISSN: 1390-8618

or empirical character of the contents, the countries and the disciplines of each study have been categorized.

3. Results

First, the production of the documents is presented for years. Although quite uneven, it can be observed that from 2011 there is evidence of a more or less stable increase in the scientific production in this field.

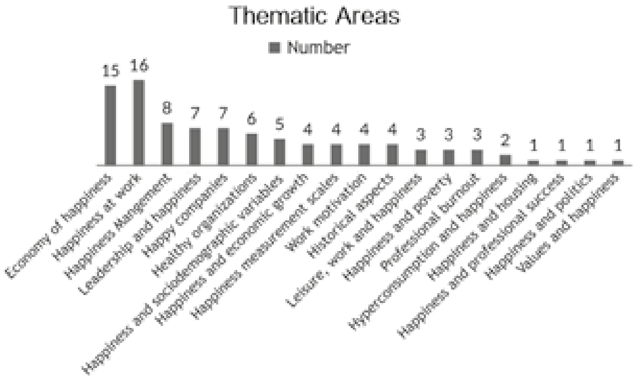
Figure 1. Evolution of publications on happiness and work in multidisciplinary EDS



Source: Own elaboration using the data extracted from Multidisciplinary EDS (2019).

The subject areas covered in the articles were then discussed and as shown in Figure 2, these analyze the subject of the Happiness Economy, mostly linked to various variables related to work and economic development. The two areas that have been studied the most in the scientific production of these years are happiness at work (18%) and Happiness Economy (17%), corresponding mostly to theoretical approaches. Then the most studied areas correspond to topics related to the world of work: leadership and happiness (8%), happy companies (8%) organizations (7%). Then a group of documents that have to do with sociodemographic variables are observed in relation to the Economy of Happiness (5%), and to the same extent studies that look at economic growth, the scales of happiness measurement, job motivation or studies that have to do with the historical background to this topic. More minority (3%) other works are presented that analyze from various perspectives happiness, such as leisure and work, poverty or professional burnout. In addition, there are critical studies on this topic addressed from hyperconsumption (2%). Finally, there is a small group of documents that examine various aspects such as the influence of housing, professional success social and labor policies and values (1%).

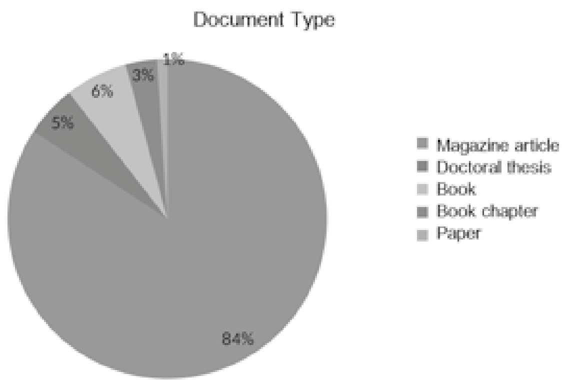
Figure 2. Main topics of emerging articles in multidisciplinary EDS



Source: Own elaboration using the data extracted from Multidisciplinary EDS (2019).

In addition, the types of scientific documents in which the topics covered by this study have been addressed, with mostly the journal article (86%) the preferred format for presenting these types of studies. Far from the subject are in the approach of this topic the doctoral theses, books, book chapters and presentations as can be seen in Figure 3.

Figure 3. Support type/format of emerging multidisciplinary EDS documents



If examining the disciplines to which the articles of the journals analyzed, it is found that most of the publications are divided between the areas of economics and the company (40%), and psychology (28%), and farther away in terms of number, journals belonging to human resources, history, education or other very minority (politics, health, etc.). This is the transdisciplinary character of happiness in the Social Sciences. As to the nature of these documents, they were analyzed whether they had been theoretical approaches or empirical research on the subject. The results after the analysis were that 59% of emerging documents are theoretical analyses of the issue and 41% empirical research.

Within empirical research, the work is carried out at 50% in Latin America (Mexico, Chile, Colombia, Bolivia, Brazil, Argentina and Venezuela) and the other 50% in Spain - remembering that the search criteria were done in the Spanish language-. Although the first distribution is very dispersed, Brazil has six jobs being the country with more works; followed by Argentina, Chile and Colombia with two and Mexico, Bolivia and Venezuela with one.

4. Conclusions and discussion

With these results some clear interpretations can be made, since the breakdown and relationships that these data have may be relevant for assessing the interests and progress of researches.

The clearly growing trend of scientific production on happiness and work has two important aspects: on the one hand, the time of great changes, which continuously brings forth new explanatory and prescriptive paradigms. In this sense "Organizational Happiness" can be a new conceptualization that includes the old constructs of motivation, satisfaction, quality of working life, engagement, passion for work, subjective well-being, etc. On the other hand, this increase agrees with the end of the economic crisis. Overcoming and leaving behind the concerns of this great imbalance of the global economic system has refocused the interest in making companies more productive and human, preserving occupational health and improving personal development (Peiró, 2011; Ramos & Peiró, 2014).

The review of the thematic areas places most studies at the core of models that deal with economics, work and happiness. This is obvious, since researchers may be thought to treat the general aspects in a majority way, both in their econometric aspect that has always been interested in comparisons of the different indexes between countries (Rivas *et al.*, 2015), like the one related to this research (Rodríguez &Cifre, 2012).

But despite this more general data, it is observed that issues that are more concrete have been addressed. In the next place it was very much to be expected that leadership and its relationships with happiness would be studied. This growing interest in "Happiness Management" reflects the advancement in the studies of transformational, emotional, positive, authentic, server leadership that were trending in positive leadership research (Yukl, 2008; Sánchez, 2010; Blanch *et al.*, 2016). As leadership is the most strategic psychosocial aspect in organizations, its optimization is very visible. Even some companies have left behind the names of Chief of Staff, Director of Human Resources or Director of People by changing them to the Director of Happiness (e.g. Open English). Many current studies are working this construct (Ravina, Villena & Gutiérrez, 2017; Ravina, Tobar & Marchena, 2019).

The theme of leadership is followed by two categories that have to do with previous interests, such as happy companies and healthy and positive organizations, which is the ideal of the optimal functioning of the health of individuals and organizations and the effective management of their well-being and development (Lorente

& Vera, 2010; Salanova, 2010; Salanova *et al.*, 2017; Rivera *et al.*, 2018). And in the following places are the relationships of the descriptors studied with sociological aspects (demography, economic growth, history, leisure, poverty, housing, politics).

There are also proposals for scales of measure and which are not uncommon to find. Despite the proposal of some instruments of specific measure of happiness at work (Salas, Alegre & Fernández, 2013) it is necessary to deepen the research in this area for the construction of these tools.

On the other hand, the documents address other psychosocial aspects such as motivation, success and values. Taken together, the variables discussed in the various documents studied are those that have an impact on the concept of happiness applied to the world of work in both its positive and negative aspects.

In addition to the above, some of the topics covered in these documents highlight the importance of people's subjective well-being in the world of work, personal satisfaction and the negative influence of variables that are interfering with it. The selected articles cover all those dimensions that actually have to do with this: demographic, social and economic variables, health and those that have to do with the behavior and the vital situation of people.

As for the results of the type of scientific document, there are more journal articles, as expected. Only five doctoral theses, three books and three book chapters have been indexed. This is very convenient, since the dissemination of journals and their global reach may be higher. It is also necessary to use comparative meta-analyses in this field that compile studies globally and show the effectiveness of the various models that seek positive affections at work.

Separately, the nature of the document, which mostly reflects the theoretical studies of the subject in this period, has been analyzed separately. It is necessary to make more emphasis on empirical research results that favor the emergence of evidence and build healthy organizations and job models. These can lay the foundations for important models, as discussed above, but should be accompanied by studies that reflect the reality.

The disciplines to which the journals in which the analyzed publications have been made, reflect the two-sided nature of the subject, economic and psychological as a reflection of the well-being of people. It is necessary to provide psychology, not only from their work areas but also from other areas such as economic psychology (Billón, 2002; Bonavia & Quintanilla, 2005; Quintanilla, 2010); it can add knowledge about people's economic behaviour as producers of positive or negative attitudes in their field of work. Economic factors have a central influence on people's behavior, not only in their private area but also in their public area, and thus in their working life.

As for the future lines of research, we are at a time of reviewing the models used in this research, and we find both in our academic and organizational environments the broad interest of the subject and, therefore, the need to a multidisciplinary, global and scientific approach that allows clear evidence of the effectiveness of its application.

Therefore, it is necessary to have a multidisciplinary approach of the subject to find ways not only of economic growth, but for it to contribute to the prosperity of people in all its dimensions.

p-ISSN: 1390-6291; e-ISSN: 1390-8618

References

De Barbieri, A. (2018). *Economía de la felicidad: claves para vencer el cansancio y vivir con sentido*. Madrid, España: Grijalbo.

Baker, D., Greenberg, C., & Hemingway, C. (2007). *Empresas Felices=Empresas Rentables*. Barcelona, España: Gestión 2000.

Bakker, A.B., Rodríguez-Muñoz, A., & Derks, D. (2012). La emergencia de la Psicología de la Salud Ocupacional Positiva. *Psicothema*, *24*(1), 66-72.

Bakker, A. B., & Demerouti, E. (2013). La teoría de las demandas y los recursos laborales. *Revista de Psicología del Trabajo y de las Organizaciones*, *29*(3), 107-115. https://doi.org/10.5093/tr2013a16

Billón, M. (2002). Psicología y economía desde una perspectiva interdisciplinar. *Encuentros multidisciplinares*, *4*(11), 2-10. http://hdl.handle.net/10486/668582

Blanch, J., Gil, F., Antino, M. & Rodríguez Muños, A. (2016). Modelos de liderazgo positivo: marco teórico y líneas de investigación. *Papeles del Psicólogo*, *37*(3), 170-176.

Bonavía, T., & Quintanilla, I. (2005). *Psicología y economía*. Valencia, España: Universidad de Valencia.

Carter, B. (2017). *2017 Employee, Engagement & Loyalty statistics, Access Perks, 28 de agosto. Recuperado de* http://bit.ly/2Xqd5VG

Castells, M. (2008). *La sociedad red*. Madrid, España: Alianza editorial.

Cifré, E., & Navarro, Mª L. (2013). Construyendo puentes entre la Responsabilidad Social Empresarial y la Salud Psicosocial en las Organizaciones: una Guía 2.0 para el incremento de la Empleabilidad. Estudios financieros. *Revista de Trabajo y Seguridad Social: Comentarios, casos prácticos: recursos humanos*, *359*, 163-204. http://hdl.handle.net/10234/93650

De los Ríos, A.L. (2016). Felicidad y economía: la felicidad como utilidad en la economía. *Equidad & Desarrollo* (26), 115-143. https://doi.org/10.19052/ed.3700

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychological*, *55*(1), 34-43. https://psycnet.apa.org/doi/10.1037/0003-066X.55.1.34

Fernández, Y. (2019). *¿Es rentable invertir en felicidad?*, Finsi, 6 de febrero. Recuperado de http://bit.ly/2QCUIdD

Frey, B. (2018). *Economics of Happiness*. Cham, Switzerland: Springer. https://doi.org/10.1007/978-3-319-75807-7

Galiano Coronil, A., & Ravina Ripoll, R. (2015). Un mapa de la felicidad de los titulados universitarios españoles, en el adiós de la crisis económica (2014). *Oikos: Revista de la Escuela de Administración y Economía*, *19*(40), 123-136.

Garay, G. (2015). Las Finanzas Conductuales, el Alfabetismo Financiero y su Impacto en la Toma de Decisiones Financieras, el Bienestar Económico y la Felicidad. *Revista Perspectivas*, *(36)*, 7-34.

Lazarus, R. S. (2003). Does the positive psychology movement have legs? *Psychological Inquiry*, *14*(2), 93-109. https://psycnet.apa.org/doi/10.1207/S15327965PLI1402_02

Lipovestsky, G. (2014). *La felicidad paradójica*. Barcelona, España: Anagrama.

Lorente, L., & Vera, M. (2010). Las organizaciones saludables: "El engagement en el trabajo". *Gestión práctica de riesgos laborales: Integración y desarrollo de la gestión de la prevención*, *73*, pp. 16-20.

Moccia, S. (2016). Felicidad en el trabajo. *Papeles del psicólogo*, *37*(2), 143-151.

Morales, J.F., Nouvillas, E. & Arias, A.V. (2012). Aplicaciones de la psicología social. En A.V. Arias, J. F. Morales, E. Nouvillas & J.L.Martínez-Rubio (Coords.). *Psicología Social Aplicada* (pp.1-43). Madrid, España: Médica Panamericana.

Peiró, J. M. (2011). La flexibilidad laboral en un entorno de crisis económica. Contribuciones desde la psicología. *Infocop*, *55*, 14-18.

Popescu, G.H. (2016). Does economic growth bring about increased happiness? *Journal of Self-Governance and Management Economics*, *4*(4), 27-33. https://doi.org/10.22381/JSME4420163

Quintanilla, I. (2010). La psicología económica y del consumidor en la sociedad de la complejidad y la incertidumbre. *Informació psicológica*, *100*, 115-118.

Ramos, J. & Peiró, J.M. (2014). La Psicología del trabajo y las organizaciones en tiempos de crisis económica. *Papeles del psicólogo*, *35*(1), 1-4.

Ravina, R., Tobar, L. B., & Marchena, J. (Eds.). (2019). *Happiness Management: A Lighthouse for Social Wellbeing, Creativity and Sustainability*. Switzerland: Peter Lang CH. https://doi.org/10.3726/b15813

Ravina, R., Villena, F., & Gutiérrez, G.A. (2017). Una aproximación teórica para mejorar los resultados de innovación en las empresas desde la perspectiva *del* "Happiness Management". *Retos, Revista de Ciencias de la Administración y Economía*, *14*(7), 113-129. https://doi.org/10.17163/ret.n14.2017.06

Rivas, L.A. (Coord.) (2015). *Sectores de la nueva economía 20+20. Economía de la Felicidad.* Madrid, España: EOI.

Rivera, D.A., Carrillo, S.M., Forgiony, F., Nuván, I.L., & Rozo, A.C. (2018). Cultura organizacional, retos y desafíos para las organizaciones saludables. *Revista Espacios*, *38*, 1-14. http://hdl.handle.net/20.500.12442/2165

Rodríguez, A.M., & Cifre, E. (2012). *Flow y bienestar subjetivo en el trabajo.* Madrid, España: Síntesis.

Rodríguez-Muñoz, A., & Sanz-Vergel, A.I. (2011). La felicidad y el bienestar en el trabajo. *Mente y cerebro*, *50*, 42-49.

Retzbach, J. (2018). La felicidad se construye con sentido. *Mente y Cerebro*, *90*, 44-49.

Salanova, M. (2010). *Psicología de la salud ocupacional.* Madrid, España: Síntesis.

Salanova, M. (2010). Organizaciones saludables, organizaciones resilientes. *Gestión Práctica de Riesgos Laborales*, *58*, 18-23. http://hdl.handle.net/10234/73232

Salanova, M., Llorens, S., Cifre, E., & Martínez, I. M. (2012). We need a hero! Toward a validation of the healthy and resilient organization (HERO) model. *Group & Organization Management*, *37*(6), 785-822. http://dx.doi.org/10.1177/1059601112470405

Salas Vallina, A., Alegre, J. & Fernández, R. (2013). La medición de la felicidad en el trabajo y sus antecedentes : un estudio empírico en el área de alergología de los hospitales públicos españoles. *Trabajo: Revista andaluza de relaciones laborales*, *28*, 83-116.

Sánchez, J. F. (2010). *Liderazgo: teorías y aplicaciones*. Salamanca, España: Universidad Pontificia de Salamanca.

Sánchez, J.F. (2018). El significado vital en las organizaciones: aportaciones de la economía de la felicidad. *Cauriensia*, *13*, 143-156. https://doi.org/10.17398/2340-4256.13.143

Seligman, M. (2011). *La vida que florece*. Barcelona, España: Ediciones B.

Thivissen, P. (2018). La importancia del sentido de la vida. *Mente y Cerebro*, *90*, 50-55.

Vera, B. (2006). Psicología Positiva: Una nueva forma de entender la psicología. *Papeles del psicólogo*, *27*(1), 3-8.

Vera, B. (2008). *Psicología Positiva. Una nueva forma de entender la psicología*. Madrid, España: Calamar Ediciones.

Warr, P. (2013). Fuentes de felicidad e infelicidad en el trabajo: una perspectiva combinada. *Journal of Work and Organizational Psychology*, *29*(3), 99-106. http://dx.doi.org/10.5093/tr2013a15

Yela García, C. y Saiz Galdós, J. (2013). Hacia una psicología social de los problemas sociales (I): psicología social aplicada y problemas sociales. En C. Yela García (Coord.), *Psicología social de los problemas sociales* (pp.41-85). Madrid, España: Grupo 5.

Yukl, G., (2008). *Liderazgo en las organizaciones*. Madrid, España: Pearson.

Miscellaneous Section

Retos, *9*(18), 2019
Revista de Ciencias de la Administración y Economía | ISSN impreso: 1390-6291; ISSN electrónico: 1390-8618
www.retos.ups.edu.ec

Economic growth as a model of social development and its relation with the climate change

El crecimiento económico como modelo de desarrollo social y su relación con el cambio climático

PhD. Gabriel M. Rodríguez Pérez de Agreda is tenure profesor at Facultad Latinoamericana de Ciencias Sociales (FLACSO), Cuban Program, Universidad de La Habana (gabriel@flacso.uh.cu) (http://orcid.org/0000-0002-7656-1774)

PhD. Elizabeth Cabalé Miranda is tenure professor Facultad Latinoamericana de Ciencias Sociales (FLACSO), Cuban Program, Universidad de La Habana. (elicabalem@flacso.uh.cu) (http://orcid.org/0000-0002-4373-5221)

Dania Deroy Domínguez is a profesor at Facultad Latinoamericana de Ciencias Sociales (FLACSO), Cuban Program, Universidad de La Habana. (danita@flacso.uh.cu) (http://orcid.org/0000-0002-5156-7950)

Abstract

This article analyses how critical thinking addresses the complex relationships between economic growth, as a model of prevailing social development and climate change. In this sense, climate change is presented as the most important global change facing humanity, and where despite the measures adopted, the possibility of disaster is real. Taking as reference the classics, a brief analysis of the Capital-work relationship is done. It provides a look at a projection horizon, where along with the essential mitigation and adaptation measures to climate change, others associated with human emancipation are assumed. Likewise, from the analysis of some of the normative documents of recent years, an approach is made to the importance of education as an essential factor in stopping this process. It takes a critical look and questions the different solutions or proposals related to climate change. At the end, the need for a change in this model of relationships, fundamentally between the human being and nature, to achieve total emancipation is observed. In addition, education is proposed as one of the most important tools as a factor of change and where the human being must be an active part of this process of change.

Resumen

El presente artículo analiza cómo desde el pensamiento crítico se abordan las complejas relaciones entre crecimiento económico, como modelo de desarrollo social imperante, y el cambio climático. En este sentido, el cambio climático se presenta como el fenómeno global más gravitante al cual se enfrenta la humanidad, y donde a pesar de las medidas adoptadas, aun la posibilidad de desastre es real. Tomando como referencia a los estudios clásicos, realiza un breve análisis de la relación capital-trabajo. Brinda una mirada en un horizonte de proyección, donde junto a las imprescindibles medidas de mitigación y adaptación al cambio climático, se asumen otras asociadas a la emancipación humana. Igualmente, desde el análisis de algunos de los documentos normativos de los últimos años, se hace un acercamiento a la importancia de la educación como factor esencial para lograr detener este proceso. Se realiza una mirada crítica y cuestiona las distintas soluciones o propuestas relacionadas con el cambio climático. Al concluir se aprecia la necesidad de un cambio en este modelo de relaciones, fundamentalmente entre el ser humano y la naturaleza, para lograr la total emancipación. Además, se propone la educación como una de las herramientas más importantes como factor de cambio y donde el ser humano debe ser parte activa de este proceso de cambio.

Keywords | palabras clave

Social development, economic growth, climate change, critical thought, subject, modernity.
Desarrollo social, crecimiento económico, cambio climático, pensamiento crítico, sujeto, modernidad.

Suggested citation: Rodríguez Pérez de Agreda, G.M., Cabalé Miranda, E., y Deroy Domínguez, D. (2019). Economic growth as a model of social development and its relation with the climate change. *Retos Journal of Administration Sciences and Economics, 9*(18), 263-273. https://doi.org/ 10.17163/ret.n18.2019.06

Received: 03/12/19 | Reviewed: 07/14/19 | Approved: 08/01/19 | Published: 10/01/19

Retos, 9(18), 2019

1. Introduction

Climate change (CC) requires a change in the society: either solves this problem or the existence of life on our planet could disappear. Moving on from national and international actions, today's reality does not show a promising future: global temperature continues to rise with the consequent exponential degradation of ecosystems; therefore, what to do? Is it about finding more appropriate adaptation and mitigation measures, or should we also focus our gaze on other places and processes?

From the critical thinking, this work addresses economic growth as a generally accepted "model" of social development. First, following the guidelines of critical thinking, the work values the historical-social conditioning of economic growth and its translation into an "ideal model" of social development, some of the consequences that this model has on natural and social reality and it goes back on the very time when it is imposed; the aim is "to question" the possible solutions to the pressing global change with an inextricable relation to the model of social development to follow.

2. Development as economic growth

The most widespread or "natural" image about the development of society is that this is a consequence of economic growth. For example, it is thought that: "Economic growth is important, not by itself but by what it allows to make a country and people with the resources it generates" (United Nations Development Programme (UNDP), 2014), an idea that does not endorse practical reality and receives multiple criticisms (see gr. Daly, 2012; Gómez & Díaz, 2013, Rodríguez & Cabalé, 2016; Kreimerman, 2017). Following these detractions, two elementary details could be noted: pre-modern societies development did not consist of such growth, there is no reason to assume that post-capitalist society has such growth as a criterion of progress; on the other hand, the idea of development as growth "[... [boomed from the eighteenth century, in the context of the struggle committed by the young bourgeoisie against the clerical-feudal order..." (Acanda, 2002); i.e., capitalist society in its establishment and deployment needed (and still needs for its preservation) economic growth, but capitalist society is only a period in the future of human society. The idea of the progress of the illustration served for the struggle in a given context, but that is not the current context. Therefore, it is worth asking what is growth itself and why is it imposed as a "paradigm" of social development? And then what produces such growth in reality?

To start with the first proposed questioning, the social relationship that supports modernity must be assessed: the "Capital-Work" relationship. Often, when analyzing or studying capital, it is assumed or defined as a set of equipment, raw materials, factories or money (Economic Commission for Latin America and the Caribbean [ECLAC], 2018) and the essentials are accepted or neglected: necessarily relational nature. Reason for which when Marx (1973), explains what capital consists of, he begins by emphasizing: "A cotton spinning machine is a cotton spinning machine. Only under certain conditions does it become capital. Rooted to this condition, it has no capital..." i.e., capital is "not" a "set of things", although they can integrate it: money, machinery, raw materials, in short: a 'set of goods'; although these do not determine their essence, but the placement of them under certain 'specific conditions'. Therefore, followed by clarification, the German philosopher questions and responds:

> How does a sum of goods, exchange values, become capital? Because, as an independent social force, that is, as a force in the possession of a part of society, it is preserved and is increased through exchange with the immediate living workforce (Marx, 1973, p. 27).

First, capital is not a "set of things", but a "specific social relationship": Capital-work, wage labour presupposes capital and capital presupposes wage labor, one could not exist without the other (Marx, 1973); secondly, in that relationship he is a special social force in the hands of a specific social class: the bourgeois class (the existence of this class depends on this strength and this strength depends on the existence of that class); Third: as a force exists in a permanent "process of conservation and growth" when entering into relation to the living labor force of the worker. It is for this reason that Marx (*op. cit.*) states: "Does a worker in a cotton factory only produce cotton fabrics? No, he produces capital. He produces values that serve again to command about his work and create, through it, new values" (Marx, 1973, p. 38).

Now, what is the result of the capitalist production process? It results in "goods", a product in appearances[1] aimed at satisfying the human needs; but only in appearance, in view of the fact that such a product is not aimed at this purpose, but at meeting capital's own needs; an object that does not seek the "satisfaction" of human needs, but, on the contrary, "create them"; it is an article aimed not at satisfying a consumer, but at creating it; an objective that intends to achieve this "conservation and growth of capital" (Acanda, 2002). Economic growth is the way of existing and developing "the Capital", "no" human society. The human society that needs economic growth is a capitalist society, not the ones that preceded them, nor those that will continue with it.

The above leads to the answer of the second part of the question, economic growth is formed as "the paradigm of social development" because it is a key part in the hegemonic ideology of capital (Gramsci, 1975), since it is a basic instrument in the creation of a distorting image of society, under which the capitalist order is presented as the "natural order" of human society (Acanda, 2002a), which means something "better", but never "replaceable".

Taking economic growth as a sign of social development does not imply a mere epistemological error or questionable theoretical position about the development of society, but an ideological construct which, for the purposes of domination (*v. gr.* Boron, 2006), distorts social reality and involves serious practical problems, to the extent that the countries of so-called "real socialism" -which succeeded in dismantling capitalist production- understood the growth of the economy as a synonym for development. For example, Odriozola and Triana (2015) say about the current Cuban process: [...] "it is not possible to design a development strategy without taking into account the need to achieve sustained and sustainable levels of economic growth".

1 It is important to note that appearance is something consubstantial to the social phenomena or process of modernity, it is not something "at random" or a mere mistake or error, but something "objective", typical of the phenomenon, which is permanently hidden and shown as "is not" (Ramas, 2015).

Retos, 9(18), 2019

Growth is assumed as a mechanism that "automatically" leads to social development (Acanda, 2002a), something that does not happen in practice, because a detail of the current social reality is obvious: [...] "The level of economic development of a country is not so much a matter of production as of power and position" (Naredo, 2013, p. 170), it is not taken into account that "the belief that a developed country is a very productive country (...) eclipses the reality that a developed country is a country with sufficient power to act as an attraction of capital, resources and population of the rest of the world" (Naredo, 2013, p. 171). Conviction in the automatism of the economy and ignorance of this practical reality that "motivated the crisis in the former Soviet Union and, in general, of the so-called "socialist" countries that sought to compete with capitalism in forced development "material production" (Naredo, 2013, p. 173).

The idea created around economic growth was that "growing wealth" (as a container that is continuously pouring liquid) produces a "spill" of it over the rest of society, thus leading to social well-being and happiness (Daly, 2008, Arocena & Sutz, 2013). However, a simple look at social reality shows a totally opposite situation. In the nineteenth century Engels stated: "what have been the consequences of this increase in production? the increase in exhausting work, a growing misery of the masses and an immense crac every ten years" (Engels, 1974, p. 97). Additionally, at the end of the 20th century, the United Nations Development Programme (UNDP) in its Human Development Index warned that "Global economic growth is almost never filtered down" (UNDP, 1992, s/p).

Basically, it can be said that [...] "the obsession with GDP growth does not guarantee a positive assessment of social development" (Sánchez & Prada, 2015); i.e., as much as the economy has grown it has caused poverty, however, is not so much to question "what it has not achieved as a projection" as the "disasters it actually produces"

What does such growth produce in the "social" and "natural" reality? The starting point in this question is that: the way of producing capital is ignored from the "social" and "natural" consequences of its actions (Engels, 1974a; Kreimerman, 2017).

Socially, the growth of capital has two essential consequences to name: First, the increase in the domination of human beings through its conversion into "worker", because "as capital grows, the mass of wage labour grows, the number of workers grows, the number of employees; in short, capital domination extends to a greater mass of individuals" (Marx, 1973, p. 38), or what is the same, with economic growth, Capital achieves an increase in power in "intensity" and "extension" over the rest of society. It implies a polarization of wealth-power and poverty-subordination, where the former accumulates in a smaller part of society and the other extends to an ever-increasing part of that society.

Second; the domination of the human being through his conversion into a "consumer": an individual who loses the ability to conform and meet his needs on his own and is subordinated or directly subjected to the designs of the market. A human being in whom "not only his needs, but also his way of meeting him and how he is represented, must exist as a function of consumption not of any kind of objects or "things", but of a very specific object: the commodity" (Arcanda, 2002, p. 209).

The devastating consequences that the economic growth of capital brings (see gr. Morejón, 2015; Kreimerman, 2017) are due, among others, to a mutation that led to its appearance with modernity, it [...] "involved the transformation into goods of three fundamental goods for society: the labor force, the land and the currency. Its consequences have been dramatic for the society" (Acanda, 2002a, p. 57)

3. Economic growth and its consequences in nature

Assessments and warnings about the devastating natural consequences of growth are not recent, and have a history in the 18th century in a stream of economists referred to as "physiocrats" (Gómez & Díaz, 2013; Naredo, 2004 and 2013; Pérez, 2016). In the nineteenth century, several researchers of the natural sciences (physicists, biologists, chemists...), warned economists about the serious consequences that the natural events of growth would bring to the economy; "however, their theories were not seriously considered by the conventional economy" (Gómez & Díaz, 2013).

At the same time, Engels warned of the methods for optimizing the cultivation of coffee in mountainous areas by their serious consequences for the soils, (Engels, 1974a). In the middle of that century, from the economics, Thomas Robert Malthus, David Ricardo and John Stuart Mill warned that if the pace of growth followed, a "stationary state" would occur due to the depletion of natural resources (Naredo, 2004; Gómez & Diaz, 2013), an alert that is still in force today, but not because of an economic problem (of not being able to cause shortages of raw materials), but for something much more serious: "the danger of the subsistence of life on earth", and not so much because of the disappearance of resources and uncontrollable deposition of waste and the destruction of ecosystems (Naredo, 2004; Garea, 2014) promoters of the CC, rated as the most gravitating of global changes (Cuba, 2017) on which Ban Ki-moon sentenced: "Climate change is the problem that defines our age. It defines our present. Our response will define our future. To navigate through this storm, we require all hands on deck" (Ban Ki-moon quoted in Aguilar, Granat, & Owren, 2017, s/p).

A look at this complex process should begin by clarifying what should be understood by CC? Since it is often associated with weather events that occur at a certain time. It should be noted that one thing is "atmospheric time" and another thing is "climate", the first is understood as:

> [...] the physical state of the atmosphere characterized by the set of instantaneous values of atmospheric variables (temperature, pressure, humidity, wind speed, others) in a given and instantaneous place, or by the changes and mean values of such variables over a relatively short period of time (Garea, 2014, s/p).

Atmospheric weather is changing, while "climate" can be conceptualized as:

> [...] the average state of time and, more rigorously, a statistical description of atmospheric weather in terms of mean values and variability of the corresponding magnitudes over periods ranging from months to thousands or millions of years (Intergovernmental Panel on Climate Change [IPCC], 2014),

Climate is relatively stable or permanent in time and place, for that reason there are different types of climates: "wet", "dry", "cold", "temperate", etc. The climate on earth is determined by the energy it receives from the sun (Garea, 2014) and the

Retos, 9(18), 2019

fact that it is relatively stable for long periods of time does not mean unmodifiable, it has varied cyclically throughout history, due to"... natural internal processes or external forces such as solar cycle modulations, volcanic eruptions..." (IPCC, 2014, s/p).

This mutability of the climate is called CC, which is conceptualized by the IPCC (*op. cit.*, s/p) as a "variation in the state of the identifiable climate (e.g., by statistical tests) in the variations, in the mean value or in the variability of its properties, which persist for long periods of time, usually decades or longer periods". This process can occur because of natural or anthropogenic changes, reason for which the United Nations Framework Convention on Climate Change (UNFCCC), focuses as a "climate change directly or indirectly attributed to human activity that alters the composition of the global atmosphere and adds to the natural climate variability observed over comparable time periods" (UNFCCC cited in IPCC, 2014, s/p).

Earth's climate is fundamentally a consequence of the process of transforming solar energy into terrestrial. This process results from the interaction of solar radiation with the atmosphere, surface of the earth and oceans. For this reason, the composition and characteristics of the atmosphere and the features of the Earth's surface and the oceans are decisive in this process (Garea, 2014). They are responsible for the so-called radioactive balance and hydrological cycle (Garea, 2014).

Life on earth is largely due to its atmosphere, its composition and characteristics that allow solar energy, reflected by the Earth's surface not to escape into space and radiate back into it, causing what is known as the "greenhouse effect". A set of gases called greenhouse gases (GHGs) are responsible for this process. If these gases were not part of the atmosphere, the earth's average temperature would be in the order of -18 °C" (Garea, 2014). The main GHGs, in addition to water vapour (part of the important hydrological cycle), are: carbon dioxide, ozone, methane and nitrous oxide. The presence and concentration of these gases in the atmosphere depends on the correlation between their emission by natural or human source and their absorption by sinks.

On the one hand due to productive activity and to the destruction of sinks (indiscriminate logging of forests, etc.), motivated by the need to achieve economic growth, increasing progressively to the concentration in the atmosphere of: "carbon dioxide" (consequence of burning coal, oil and natural gas), "methane and nitrous oxide" (due to agriculture, the decomposition of organic matter, landfills and changes in the land use) (Garea, 2014; Delgado *et al.*, 2018). In addition, due to human production, "chlorofluorocarbons" (CFCs), "hydrofluorocarbons" (HFCs) and "perfluorinated hydrocarbons" (PFCs) are added to this concentration, which are substances that do not exist in the nature and which have a high power of warming up the atmosphere (Camacho *et al.*, 2018; Barrientos, Méndez, & Welsh, 2019). All of them have led to a progressive increase in temperature in the earth with the consequent CC.

The problems associated with CC are not only referred to the changes, but also to the speed with which they occur, which impedes or nullifies the ability of ecosystems to accommodate such changes, and "this is what irreversible ecological degradation processes become" (Garea, 2014, s/p). Hence, the CC is the most pressing and serious environmental process facing man, because he is the one producing a cascade effect of impoverishment on the waters, soils, forests and in general, on all the elements of the natural environment in which life rests and:

> [...] if changes occur in the global environment such as changes in the climate, soil productivity, oceanic or freshwater resources, in the chemistry of the atmosphere or in the ecology of systems, the Planet's ability to sustain life could be altered (Garea, 2014, s/p).

On the other hand, while climate change is global in nature, it has regional effects that differ considerably (Aguilar *et al.*, 2017), it will also do so differently in people, as the poor, (...) will be affected in a disproportionate way (Global Gender and Climate Alliance [GGCA], 2009). In fact, the CC could deepen the gap between rich and poor. Thus, the fact that CC is a global process does not imply that its impacts are similar in all places and people on the planet, this will depend on the uniqueness of the territory. Hence, while it requires global action, to that same extent it needs essentially local solutions, given the uniqueness of its various impacts.

The actions proposed against the CC are "mitigation" actions aimed at controlling or eliminating the causes that generate change and "adaptation" actions focused on developing the capacity to adapt to the new conditions that it imposes. Now, while mitigation and adaptation actions can be addressed separately, organically they must function as one, i.e., they must be a whole, since mitigating the emission of gases does not impede the effects that the CC imposes on the society. On the other hand, devoting the efforts only to adapt, leaves unscathed the causes that lead us to it and the cascade of destruction imposed by the CC; therefore, a joint action must be taken.

However, the impoverishment continues despite defining these actions against the CC and the whole international programme to address this change, since it seems that maintaining the target of 2 °C is increasingly unattainable (Vergara *et al.*, 2016). The deterioration continues this because the cause remains there: the way in which society is produced and reproduced continues being the same, the idea of "development" (regardless of the adjective "sustainable") as "economic growth" remains being the same, and the market empire remains unalterable.

4. Critical gaze at the solutions

At this point the problem is not so much about finding the answer to the question, but in questioning the solutions. The problems presented by the CC should not be seen apart from the problems engendered by the "hegemonic" model of social development. For this reason, mitigation and adaptation actions should not be dealt with alone, but also the prevailing model of development, which is generally known by a 'poor distribution of wealth'.

For example, UNDP in its *Human Development Report: 1992* indicates that "The richest 20% of the world's population receives 82.7% of the world's total income, while the poorest 20% receive only 1.4%". However, the analysis of the report identifies economic growth as "an important means" to achieve human development (UNDP, 1992), without taking into account that, precisely, this poor wealth distribution they referred to is a "forced consequence" of the economic growth, no more or less; so the solution to the problem is not to place the State as an "instrument of redistribution" of wealth.

Retos, 8,(16), 2018

The redistribution of wealth throughout the State, although it somehow "cushions" the terrible existence conditions of the dispossessed classes, is still a way of preserving social domination and asymmetry, because they will be the dispossessed, the ones who receive the state aid to meet their needs (mainly peremptory ones), as a result, they will not be free to choose what or how to meet their needs, because this possibility of satisfaction is vetoed to it by reality and comes to it from an organism that mediates it in its satisfaction. At this point, the huge differences in needs and satisfactions between the dispossessed and the capitalist remain intact.

The problem of capital is the increasing polarization of wealth-power and poverty-subordination that engenders, something that cannot solve the state by alleviating the enormous social impoverishment that this process naturally generates. The state redistribution attenuates the state of affairs, but always in a limited, partial way, because, as Marx (1973) warns, social needs are always relative, they are objectively concrete historical that capital places in a process of exponential increase, consequently the dispossessed, the employee will never be able to access the needs and pleasures of the capitalist person. For this elementary reason, as the most recent history has shown, the totalitarianism of the market cannot be faced with the totalitarianism of the state (Acanda, 2002).

Perhaps the questioning begins by not simply assuming social reality and denying it in as: "wrong," "unfortunate" or "destructive," but overcoming it critically, for which it is required to go back to the historical era in which we live: "modernity" (Giddens, 1998, Acanda, 2002a) and find the way out in its contradictions.

The emergence of the capitalist way of production in this historical period generated radical changes in social relations, hence, for the first time in human history, the production of social richness was founded on the direct relationship of free men. These basic relationships of society transformed all the other relationships between men (Acanda, 2002a). The ideology of capital was formed on these bases: Liberalism, brought about a substantial change in the idea and representation of man's relations with society, showing a new paradigm of the social, because it consisted of coming to think the whole problem of social existence from the individual (Acanda, 2002a). Thus, the emergence of the idea of man as the "subject" of his own life: an individual, among others, with the capacity to define his own goals and ways of attaining them, capable of building himself as he transforms the reality around him (D'Angelo, 2001; Acanda, 2008; Hinkelammert, 2010).

However, this vocation of liberation with full development of human subjectivity, cannot be deployed in the midst of a dominating society such as bourgeois society. The need to produce more and cheaper goods and make more profits created the instrumental rationality, a rationality that can be synthesized: in the development of science and the mastery of nature to dominate man through it, as a worker or as a consumer (Acanda, 2002; Hinkelammert, 2010a).

But, even if modernity betrays itself, it cannot simply be set aside as erroneous, but it must be overcome critically, for which the purpose of achieving the full development of human subjectivity must first be rescued to achieve conformation of the human being in the "subject" of his own life, which involves stripping the process of shaping the human subjectivity of the domination that instrumental rationality seeks to extend over it (Acanda, 2002), and second, to achieve the development of a liberating human rationality, given the fact that it is impossible to achieve human emancipation without knowing and dominating the reality around us (Cabalé & Rodríguez, 2016), but that process of knowing and dominating cannot be directed at dominate and subdue man.

It is worth noting that the purpose of that time, like the one at issue today, is closely related, inter alia, to Education, precisely for this reason in the 2030 Agenda, it is identified as objective number 13 "To take urgent action to combat climate change and its effects" to achieve this, it is prescribed in its goal 13.3 "to improve education, awareness and human and institutional capacity with regard to climate change mitigation, adapt to it, reduce its effects and awareness" (ECLAC, 2016, s/p). However, it is not just about educating for mitigating and adapting to the CC, but also for going further and seeking the critical overcoming of these modern contradictions and aporia. It is not a question of "saving humanity" from catastrophe, but "humanity is saved" from it and that implies that the human being is the architect of his goal, a human being "subjected to his own destiny".

This education for change can be used by certain existing budgets in the Latin American region: on the one hand, recent opinions highlight that Latin America is one of the regions where there is more concern for the CC and they refer to the greatest concern that is sense of impact of global warming; on the other hand, "it reflects a permanent tension between autonomous life projects (...) and more instrumental projects" (UNDP, 2016).

Conclusions

The CC, one of the most gravitating global processes facing humanity, is an important consequence of the development model focused on economic growth, which implies an "irrational consumption" of natural resources and "exponential pollution" of the environment, for the production of goods, an object whose hidden but real purpose is the preservation and increase of the domination of a small part of society over a big part of society. Consequently, overcoming this process of global change implies a change in the model of social development, not focused on the production of "things", but on human emancipation, on the substitution of intersubjective relations of domination by intersubjective relations of emancipation, which necessarily implies a change in the relationship between human beings and this with the nature of which they are a part of.

The adaptive capacity of the human being –essential to the challenges imposed by the CC– does not develop in a means of subordination, domination, or what is the same, is not possible in a relationship where a few are subjects of their actions and many are other objects of those acts, instead, that essential adaptive capacity is part of relationships between human subjects of their own lives.

The uniqueness of the impacts of CC in places and people points to at least two necessary perspectives: the solutions can not be unique and general but singular and local, in agreement with this, the development must be local and endogenous; on the other hand, differentiated impacts on people will lead to a deepening in inequalities between rich and poor, hence a paradigm of social development placed in the coordinates of true human emancipation is needed.

Retos, 9(18), 2019

Referencias

Acanda, J. L. (2002). ¿Qué significa ser progresista en materia de pensamiento? Recuperado el 22 de julio de 2015, de http://biblioteca.filosofia.cu/php/export.php?format=htm&id=37&-view=1

Acanda, J. L. (2002a). *Sociedad Civil y Hegemonía.* La Habana, Cuba: Centro de Investigaciones y Desarrollo de la Cultura cubana Juan Marinello.

Acanda, J. L. (2008). *La problemática del sujeto y los desafíos para la teoría de la educación*, Rebelión, 1 de julio. Recuperado de https://bit.ly/2YFglwd

Aguilar, L., Granat, M., & Owren, C. (2017). *Las Raíces del futuro. Situación actual y progreso en género y cambio climático.* Las raíces del futuro: Situación actual y progreso en género y cambio climático. Washington DC, Estados Unidos: UICN y GGCA.

Arocena, R., & Sutz, J. (2013). Innovación y democratización del conocimiento como contribución al desarrollo inclusivo. En G. Dutrénit & J. Sutz (Eds.), *Sistemas de innovación para un desarrollo inclusivo. La experiencia latinoamericana* (pp. 19-34). Ciudad México: Foro Consultivo Científico y Tecnológico.

Barrientos-Cruz, A. R., Méndez-Salazar, M. A., & Welsh-Rodríguez, C. M. (2019). Análisis inter-temporal de la contaminación por gases de efecto invernadero: Avances teóricos y perspectivas para México. *DIGITAL CIENCIA@UAQRO, 12(1)*, 60-68. https://bit.ly/2KbI0kz

Boron, A. A. (2006). *Diálogo sobre el poder, el Estado y la Revolución.* La Habana, Cuba: Centro de Investigación y Desarrollo de la Cultura cubana Juan Marinello.

Cabalé, E., & Rodríguez, G. (2016). El desarrollo a propósito del pensamiento de Rodolfo Stavenhagen. *Estudios del Desarrollo Social: Cuba y América Latina*, *4*(3), 82-96.

Camacho, C., Marmolejo, Y., Otazo, E. M., & Romo, C. (2018). Emisiones de GEI del corredor industrial Apaxco-Tula. *Publicación Semestral Pädi 7*(13), 12–16. https://doi.org/10.29057/icbi.v7i13.3443

Comisión Económica para América Latina y el Caribe (CEPAL). (2016). *Agenda 2030 y los Objetivos de Desarrollo Sostenible: una oportunidad para América Latina y el Caribe.* Recuperado de https://bit.ly/2zpSrfb

Comisión Económica para América Latina y el Caribe (CEPAL). (2018). *Estudio Económico de América Latina y el Caribe, 2018.* Santiago, Chile: Naciones Unidas. Recuperado de https://bit.ly/2SQeWAS

República de Cuba. (2017). *Segunda Comunicación Nacional a la Convención Marco de las Naciones Unidas sobre Cambio Climático.* La Habana, Cuba: Editorial AMA. Recuperado de https://bit.ly/2YEoMIe

D'Angelo, O. (2001). *Sociedad y educación para el desarrollo humano.* La Habana, Cuba: Pueblo y Educación.

Daly, H. (2008). Desarrollo Sustentable: definiciones, principios, políticas. *Aportes*, (7), 3-26.

Daly, H. (2012). *Ocho falacias sobre el Crecimiento*, Otro desarrollo, 3 de mayo de 2016. Recuperado de https://bit.ly/2OzB5FW

Delgado, J., Yépez, E. A., Paz, F., Ángeles, G., Aguirre, C., Alvarado, M. S., *et al.* (2018). Base de datos de flujos verticales de dióxido de carbono en ecosistemas terrestres y costeros en México. *Elementos para políticas públicas*, *2*(2), pp. 93-108. Recuperado de https://bit.ly/2YDhlVO

Engels, F. (1974). Introducción a la Dialéctica de la Naturaleza. En *Obras Escogidas de C. Marx y F. Engels* (pp. 39-56). Moscú, Rusia: Progreso.

Engels, F. (1974a). El papel del trabajo en la trasformación del mono en hombre. En *Obras Escogidas de C. Marx y F. Engels* (pp. 66-79). Moscú, Rusia: Progreso.

Garea, B. (Coord.). (2014). *Cambio Climático y Desarrollo Sostenible. Bases Conceptuales para la Educación en Cuba.* La Habana, Cuba: Editorial Educación Cubana.

Giddens, A. (1998). *Modernidad e identidad del yo. El yo y la sociedad en la época contemporánea.* Barcelona, España: Ediciones Península. Recuperado de https://bit.ly/2Htqhoa

Global Gender and Climate Alliance (GGCA). (2009). *Manual de capacitación en género y cambio climático.* San José, Costa Rica: Masterlitho S.A.

Gómez, C., & Díaz, J. A. (2013). Origen del concepto de desarrollo sostenible. En *Referencias para un análisis del desarrollo sostenible* (pp. 7-16). Alcalá de Henares, España: Universidad de Alcalá.

Gramsci, A. (1975). *Cuadernos de la Cárcel. Edición crítica del Instituto Gramsci* (2da Edición ed., Vol. Tomo I). (A. M. Palos, Trad.) México: Ediciones Era.

Hinkelammert, F. J. (2010). Retorno del sujeto humano reprimido frente a la estrategia de globalización. En *Ecología política y Educación Popular ambiental* (pp. 21-25). La Habana, Cuba: Editorial Caminos.

Hinkelammert, F. J. (2010a). La irracionalidad de lo racionalizado. Comentarios metodológicos sobre la racionalidad instrumental y su totalización. En *Ecología política y Educación Popular ambiental* (pp. 75-77). La Habana, Cuba: Editorial Caminos.

Intergovernmental Panel on Climate Change (IPCC). (2014). Anexo II: Glosario. En K. J. Mach, S. Planton, & C. von Stechow (Eds.), *Cambio climático 2014: Informe de síntesis. Contribución de los Grupos de trabajo I, II y III al Quinto Informe de Evaluación del Grupo Intergubernamental de Expertos sobre el Cambio Climático [Equipo principal de redacción, R.K. Pachauri y L.A. Meyer]* (pp. 127-141). Ginebra, Suiza: IPCC. Recuperado de https://bit.ly/2ZrW7Hy

Kreimerman, R. (2017). *Contexto económico en América Latina. Perspectivas y tendencias para la transformación social-ecológica*, Fundación Friedrich-Ebert-Stiftung (FES Transformación), diciembre. Recuperado de https://bit.ly/3194cRU [Fecha de consulta: 10 de junio de 2019]

Marx, C. (1973). Trabajo asalariado y capital. En *Obras Escogidas de C. Marx y F. Engels* (pp. 145-178). Moscú, Rusia: Progreso.

Morejón, A. (2015). Significación del capital en la crisis ambiental. Breve abordaje teórico desde el debate filosófico. *Revista cubana de Ciencias Sociales*, (45), 83-96.

Naredo, J. M. (2004). Sobre el origen, el uso y el contenido del término sostenible. En *Cuadernos de Investigación Urbanística* (pp. 7-18). Madrid, España: Instituto Juan de Herrera.

Naredo, J. M. (2013). Perspectivas de sostenibilidad en Cuba. En A. Gómez Sal, & C. Gómez Gutiérrez (Coords)., *Reflexiones sobre el desarrollo sostenible en Cuba: Una mirada desde el mundo académico* (pp. 169-179). Alcalá de Henares, España: Universidad de Alcalá de Henares.

Odriozola, S., & Triana, J. (2015). Estrategia de desarrollo y crecimiento económico en Cuba: dos caras de una misma moneda. *Economía y Desarrollo*, *153* (Número Especial),. 14-29. Recuperado de https://bit.ly/2Yiu80I

Pérez, I. E. (2016). Las teorías del crecimiento económico: notas críticas para incursionar en un debate inconcluso. *LAJED*, (25), 73-125.

Programa de las Naciones Unidas para el Desarrollo (PNUD). (1992). *Desarrollo Humano: Informe 1992.* Santafé de Bogotá, Colombia: Tercer Mundo Editores. Recuperado de https://bit.ly/2LVM5eF

Programa de las Naciones Unidas para el Desarrollo (PNUD). (2014). *Informe sobre Desarrollo Humano 2014. Sostener el Progreso Humano: Reducir vulnerabilidades y construir resiliencia.* New York, Estados Unidos: PNUD. Recuperado de https://bit.ly/2ZlhbQ5

Programa de las Naciones Unidas para el Desarrollo (PNUD). (2016). *Informe Regional sobre Desarrollo Humano para América Latina y el Caribe. Progreso multidimensional: bienestar más allá ingreso.* New York, Estados Unidos: PNUD. Recuperado de https://bit.ly/2Xh6u3l

Ramas, C. (2015). *Hacia una teoría de la apariencia: fetichismo y mistificación en la crítica de la economía política de Marx* (Tesis Doctoral). Facultad de Filosofía Universidad Complutense de Madrid, España. Recuperado de: https://eprints.ucm.es/34214/1/T36659.pdf

Rodríguez, G., & Cabalé, E. (2016). Desarrollo sostenible y crecimiento económico ¿Conceptos compatibles? *Estudios del Desarrollo Social: Cuba y América Latina*, *4*(4), 131-144.

Sánchez, P., & Prada, A. (2015). Del concepto de crecimiento económico al de desarrollo de las naciones: una aplicación a la Unión Europea. *Revista de Economía Mundial*, (40), 221-251.

Vergara, W., Fenhann, J. V., & Schletz, M. C. (2016). *Carbono cero. América Latina una vía para la descarbonización neta de la economía regional para mediados de este siglo: documento de visión.* UNEP DTU Partnership. Recuperado de https://bit.ly/1ROpkGP

Retos, *9*(18), 2019
Revista de Ciencias de la Administración y Economía | ISSN impreso: 1390-6291; ISSN electrónico: 1390-8618
www.retos.ups.edu.ec

Cryptocurrencies and blockchain in tourism as a strategy to reduce poverty

Criptomonedas y blockchain en el turismo como estrategia para reducir la pobreza

PhD. Israel Barrutia Barreto is a professor and researcher at Universidad Científica del Sur (Perú) (ibarrutia@ucientífica.edu.pe) (https://orcid.org/0000-0002-5728-0651)

PhD. José Antonio Urquizo Maggia is a professor and researcher at Universidad Nacional Federico Villarreal (Perú) (josurisc@gmail.com) (https://orcid.org/0000-0002-6999-4643)

PhD. Samuel Isaias Acevedo is a professor and director of research at Innova Scientific SAC (Perú) (sacevedo@innovascientific.edu.pe) (https://orcid.org/0000-0002-1505-6117)

Abstract

Poverty in Latin America and the Caribbean continues to be a problem with no apparent solution. In this article is proposed the use of cryptocurrencies and blockchain technology as a tool to reduce poverty in the region through economic activities from tourism. A detailed analysis of the potentialities collected by tourism, cryptocurrencies and blockchain technology was carried out. Due to the tourism capabilities of the Latin American and Caribbean regions, a set of efforts must be made by governments and private companies to implement tourism development in regions and locations with great biodiversity and cultural resources not yet explored. The relative access to bitcoin accounts through smartphones means that financial transactions through cryptocurrencies are available to small merchants who normally do not have access to traditional bank accounts. On the other hand, access to the internet via mobile telephony must be further strengthened to facilitate payment systems and so that blockchain-based technologies can be developed at maximum capacity. It is concluded that in order to achieve a significant reduction of poverty, it is necessary an adequate regulation of the cryptocurrencies by the governments as well as the development of an adequate infrastructure that allows the creation and / or recovery of microenterprises boosted by the «Initial Coin Offering» (ICO).

Resumen

La pobreza en América Latina y el Caribe sigue siendo un problema sin aparente solución. Se propone en este artículo el uso de las criptomonedas y la tecnología de *blockchain* como una herramienta para reducir la pobreza en la región mediante actividades económicas provenientes del turismo. Para ello se efectuó una revisión y análisis detallado de las potencialidades que recogen en conjunto el turismo, las criptomonedas y la tecnología blockchain. Dada las capacidades turísticas de la región latinoamericana y caribeña, se debe concretar un conjunto de esfuerzos por parte de los gobiernos y empresas privadas en implementar el desarrollo turístico en regiones y localidades con gran biodiversidad y recursos naturales y culturales aún sin explorar. La relativa facilidad de acceso a cuentas bitcoin mediante teléfonos inteligentes hace que las transacciones financieras mediante criptomonedas se encuentran al alcance pequeños comerciantes que, normalmente, no tienen acceso a cuentas bancarias tradicionales. Por otro lado, debe fortalecerse aún más el acceso a internet vía telefonía móvil para facilitar los sistemas de pago y para que las tecnologías basadas en blockchain puedan desarrollarse a su máxima capacidad. Se concluye que para lograr una significativa reducción de la pobreza es necesario la confluencia de una adecuada regulación de las criptomonedas por parte de los Gobiernos, así como también el desarrollo una infraestructura adecuada que permita la creación y/o recuperación de microempresas potenciadas por la «Oferta Inicial de Monedas».

Keywords | palabras clave

Tourism economics, tourism and development, economic growth of open economics, measurement and analysis of poverty, welfare and poverty.
Economía del turismo, turismo y desarrollo, crecimiento económico de la economía abierta, medición y análisis de la pobreza, bienestar y pobreza.

Suggested citation: Barrutia Barreto, I., Urquizo Marggia, J.A. and Acevedo, S.I. (2019). Cryptocurrencies and blockchain in tourism as a strategy to reduce poverty. *Retos Revista de Ciencias de la Administración y Economía, 9*(18), 275-290. https://doi.org/ 10.17163/ret.n18.2019.07

Received: 05/10/19 | Reviewed: 07/14/19 | Approved: 07/18/19 | Published: 10/01/19

Retos, 9(18), 2019

1. Introduction

Amid the 2008 financial economic crisis caused by mortgage problems in the United States, which in turn brought a global food crisis, a widespread mistrust arose in the global financial system. This mistrust is proposed by Satoshi Nakamoto in 2008 as: "an alternative source of money, based on a virtual currency that allows all people to send or receive payments in a decentralized way in the traditional financial system" (Nakamoto, 2008, p.3). The use of cryptocurrencies has had a growing interest from governments, banks, companies, academic fields among others. Success is due to the role based on a technology called blockchain, which Nakamoto defined as as:

> A ledger shared by users over a peer-to-peer network to exchange information without the need for a fixed server] that is constantly updated and in which all transactions are recorded, but no personal information is at any time shared (Nakamoto, 2008, p. 6).

In 2001, leaders of international conferences at the International Labour Organization (ILO) reaffirmed their commitment to eradicating poverty and their obligation to extend [...] "social security measures to provide a basic income to all those who need such comprehensive health care and protection" (ILO, 2001, p. 46). The Economic Commission for Latin America and the Caribbean (ECLAC), in its "Agenda 2030", emphasizes the importance of social protection as a key under the approach of ending poverty in all its forms everywhere (CEPAL, 2019).

One of the mechanisms to reduce poverty is the development of tourism at the rural and regional level (Goh,2015; CEPAL, 2018). This relationship between poverty reduction and tourism development was highlighted by the United Nations Commission on Sustainable Development (CSD) in 1999, in which was agreed: "to maximize the potential of tourism to eradicate poverty by developing appropriate strategies in cooperation with all major groups and indigenous and local communities" (CSD, 1999). However, poverty is a multidimensional concept, the meaning and measurement of which have changed over time.

Some authors promote research in tourism from the perspective of cryptocurrencies and find potential opportunities for the development (Önder & Treiblmaier, 2018). With algorithms as stifleds, cryptocurrencies become the "gold of the future": a safe haven for all who distrust the stablishment (Dierksmeier & Seele, 2018).

The development of tourism for or in favour of poverty reduction continues to be researched with great interest and is increasingly attracting attention in the academia (Yu, Wang & Marcouiller, 2019). Studies reveal that tourism can lead to the development and poverty reduction through three effects: direct effects (jobs created by hotels and restaurants), side effects (cleaning services and services provided to hotels and restaurants) and dynamic effects (Croes & Rivera, 2016; Den Braber, Evans & Oldekop, 2018). The dynamic effects are related to the overall impact of tourism on the economy, going beyond the tourism sector.

Part of the problem is that tourism's ability to help the poor depends on contextual conditions, such as the combination of incentives and organizational capabilities (Tumusiime & Vedeld, 2012). This combination of incentives and organizational capacities defines how tourism economies are structured; so the impact of tourism on the poor depends more on the structure of tourist economies and less on the types of tourists who sponsor destinations. These imperfections derive from the lack of trust in creating the tourist experience (Thomas & Koens, 2016), so the relationship between tourism development and poverty reduction is not evident (Li, Jin & Shi, 2018).

Given the complexity of poverty reduction in the tourist context, can the implementation of cryptocurrencies and blockchain technology be a tool for poverty reduction in Latin America and the Caribbean through tourism activities?

In this case, the role of this technology as a mediator between tourism and poverty must be studied. For this reason, it is proposed in this research to identify through a literature review the advantages and potentials that cryptocurrencies and blockchain technology can provide in the context of Latin American and the Caribbean tourism development to reduce poverty. In this sense, a review of articles was carried out in journals indexed in Scopus and Web of Science (WoS), by searching for keywords and keyword pairs such as Tourism-Cryptocurrencies, Tourism-Blockchain, Tourism-Poverty, among others. In this process, a list of 125 publications was obtained; the publications were in the scope required for this study. 62 out of 125 publications were selected, the results of which were more in line with the objective set out in this research by examining the contribution to literature and the limitations of the research. Each of the key topics listed was identified based on a detailed analysis of the content and common aspects among the selected studies. It should be noted that 70% of the publications of cryptocurrencies and blockchain accounted for the technical and technological aspects, while 30% of the publications fall within the scope of blockchain technology applications economy and finance.

2. Relevant aspects of cryptocurrencies and blockchain technology for tourism development

2.1. The potential of cryptocurrencies as a tool for the exchange of goods and services in tourism

Research on Bitcoin and other cryptocurrencies applications has received increasing attention in the scientific community. The number of documents published on this topic has increased at an annual rate of 124% (Merediz-Solà & Bariviera, 2019). A cryptocurrency is a digital asset designed to work as a means of exchange that uses cryptography to secure the transaction, control the creation of additional units and to verify the transfer of assets.

Bitcoin, created in 2009, was the first decentralized cryptocurrency, then others were often formed called altcoins. Bitcoin and its derivatives use decentralized control and oppose centralized e-money systems and central banks. Decentralized control is related to the use of the blockchain transaction database in the role of a distributed ledger.

In this sense, and in relation to the association of the monetary resource of modernity, Bitcoin should be understood as an electronic payment system that is based on a combination of cryptography and a large anonymous and decentralized collection of participants, called «miners» to verify transactions without the need of any trusted third party. The basic details, slightly simplified, are as follows: A Bitcoin owner can send currencies to another user using a combination of (i) their own public address (an alphanumeric string, something analogous to an account number), (ii) their own key private account (i.e., password associated with that address), and (iii) the recipient's public address to create a transaction with a cryptographically secure signature.

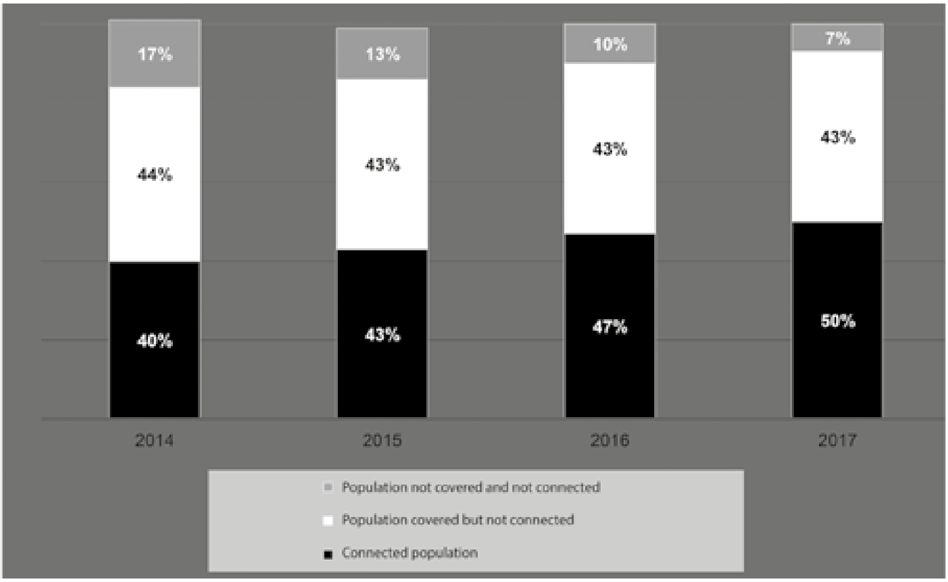
In the particular case of Bitcoin, it can serve as a tool to hedge against market uncertainty and geopolitical risks (Demir, 2018; Aysan *et al.*, 2019). A growing number of retailers now accept cryptocurrencies as a payment method. In addition, more and more investors are trying to capitalize on the volatility of virtual currency prices by buying it and selling it as a speculative investment (Shen *et al.*, 2019; Panagioditis *et al.*, 2018).

Recognizing the potential of this growing user market, investment in virtual currency businesses and start-ups has also increased. Even traditional financial institutions and the New York Stock Exchange have invested, participating in a funding round for Coinbase that raised $75 million (Tu, 2018). Another positive experience in this direction is tourism in Greece, which offers hotel services, flights and special prices for frequent flyers that can be paid with Bitcoin (Pilkington *et al.*, 2018). In contrast, other authors claim that Bitcoin volatility leads to inflation growth and currency devaluation (Narayan *et al.*, 2018).

One of the great advantages of using cryptocurrencies is that, for transactions, the necessary technology is accessible and relatively inexpensive. Access to the Internet via mobile phones in most cases is sufficient for a cryptocurrency transaction. This ease of exchange allows the receipt of micropayments or loans by those who would not otherwise have access to liquidity by offering people without banking services an opportunity for economic growth. A study in China, India, Nigeria and South Africa shows that countries with higher levels of cryptocurrencies, Internet and mobile subscriptions also have higher levels of financial inclusion and financial sector development (Vincent & Evans, 2019). In the case of Latin America, more than 50% of the population is connected to the internet by mobile phone services (see Figure 1).

p-ISSN: 1390-6291; e-ISSN: 1390-8618

Figure 1. Percentage of populations connected and not connected to mobile Internet services in Latin America (2014-2017)



Source: GSMA Inteligence (2018, p. 38).

One of the traditional ways out of poverty is by accessing a type of microcredit. Microcredit is the system in place to provide impoverished people with small loans to start some small businesses. Microcredit has been used as an important tool against poverty (*v.gr.* Ikeda and Hamid, 2018; Ikeda and Hamid, 2018). As of 2009, approximately 74 million of people had a total microcredit of $38 billion. However, there are also many people who do not have access to a microcredit because they do not meet enough requirements for its approval. Not having access to a physical bank or the documentation required for access to microcredits, such individuals do not have, until the advent of cryptocurrencies, options to save and secure assets or to be able to participate in financial planning and investment.

Because of their reliance on cash, they are often compromised and always limited to transacting with people near them. More than 2.5 billion adults worldwide lack an account in the formal banking sector. According to the World Bank, in some economies, such as Cambodia, the Democratic Republic of the Congo, Guinea, the Kyrgyz Republic, Turkmenistan and the Republic of Yemen, more than 95% of adults do not have an account at a formal financial institution. Of the 600 million inhabitants of Southeast Asia, only 27% have a bank account. This proportion is as low as 5% in Cambodia (Kshetri, 2017a). Research in development funding suggests that accessible and timely funding has the potential to lift the poor out of their poverty (Mushtaq & Bruneau, 2019).

The inclusion of mobile payment systems is rapidly expanding in developing countries. In Kenya, it was found that the use of mobile phones can significantly

Retos, 9(18), 2019

reduce the difficulties of disadvantaged communities in accessing specific social services (Lashitew, Van Tulder & Liasse, 2019). Another recent study in Ghana shows that having access to a mobile phone improves the chances of not being poor and can significantly accelerate small business revenues (Danquah & Iddrisu, 2018). Similarly, in rural India, the rapid inclusion of mobile phones was found to create an opportunity to improve people's access to health care (Haenssgen, 2018).

The costs of transactions can be much lower with the incorporation of cryptocurrencies. Due to the growing popularity of using cryptocurrency as a new means of payment, many companies are taking on a new way of launching their own cryptocurrencies, called the "Initial Coin Offering" (ICO), defined as an "investment or financing system used by blockchain-based companies in order to raise capital and give value to the tokens or currencies used in their applications or in the different services they offer" (García, 2018, p. 22). Instead of offering shares, as is the case of an Offer for Sale (OFS), a sale of "tokens" is made that can be exchanged for fiat currencies, virtual currencies or services offered by the company. It is a fairly new form not to raise initial funds that can provide high returns to short-term investors (Lahajnar & Rožanec, 2018).

An ICO could be described simply as an event in which a startup or project sells its new cryptocurrency to the public for the first time to raise capital (Dhillon, Metcalf & Hooper, 2017; Hill, 2018; Chen, 2018). The project team that initiates an ICO will determine the initial sales price. Depending on the nature of the project, investors could use these cryptocurrencies as currencies or tokens that could interact with the future product. Since then, the price of the specific cryptocurrency will be settled through supply and demand in the market (Kastelein, 2017).

Both the amount of ICOs and the amount of capital raised have been exploited since 2017 (Fish, 2019). Many of the ICO-based leverage projects have a fairly high success rate. While funds raised through traditional venture capital in 2017 were $350 million, by financing blockchain companies the volume of ICO issuance reached $2 billion in the same period (Nolan *et al.*, 2018). The secondary market for ICO tokens is quite liquid on the first day of trading and the initial yield is large, around an average value of +919.9% compared to the offer price whose average value is +24.7% (Adhami, Giudici & Martinazzi, 2018).

Based on interviews from several experts in the field of cryptography, some important signals have been identified to invest in the ICO process: the relationship of the local environment (government) to invest in blockchain technology projects, company history, liquidity issued in "tokens" and its distribution, response from cryptographic communities in the project, promotional bonuses, paid ads and the quality of information (Yadav, 2017). This is vitally important when implementing a new venture in tourism.

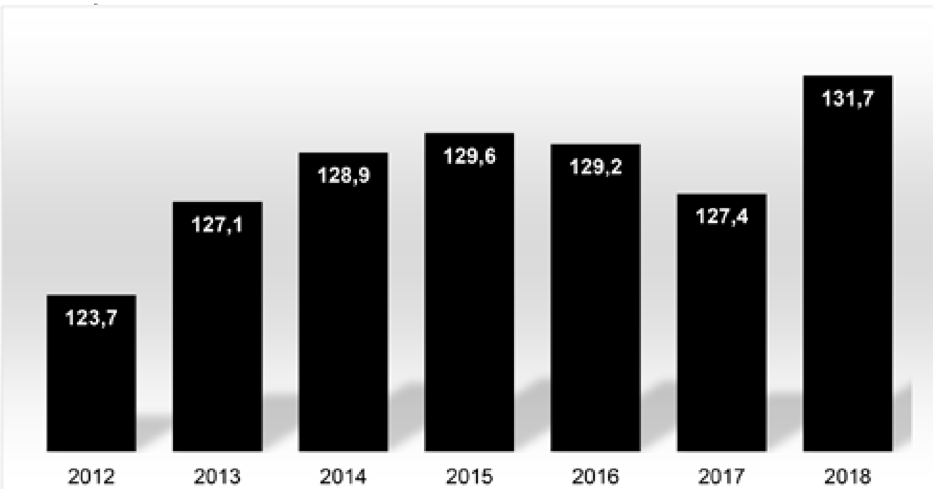
2.2. *Advantages and limitations of tourism development in Latin American and the Caribbean*

Tourism is relatively accessible to the poor, as it can generate sources of employment for women, young people and disadvantaged groups as minorities Ethnic. In addition, tourism can enhance agriculture, transport and handicrafts (Njoya & Seetaram, 2017; Li *et al.*, 2018), so it is known that tourism could provide short-term benefits to the poor. However, these benefits could decrease in the long term (Sharpley & Naidoo, 2010; Zeng *et al.*, 2015).

In island developing States, tourism contributes to poverty reduction and can improve human development (Jiang *et al.*, 2011; Kim, Uysal & Sirgy, 2013), while in remote rural areas employment in ecotourism improves financial security and social welfare (Snyman, 2012; Chirenje, 2017), although there are pre-existing sociocultural factors that may limit the participation of men and women in tourism (Tucker & Boonabaana, 2012). Although tourism provides a diversification of livelihoods for locals, those who depended on employment in the accommodation sector had the lowest incomes (Adiyia *et al.*, 2014).

For its part, tourism has a significant impact on the GDP. In 2018, the Asia-Pacific region grew by 6.4%, in North Africa there was an annual growth of 8.6%. Similarly, Ethiopia, Ecuador, St. Kitts and Nevis, Egypt and Turkey led global GDP growth in travel and tourism in 2018 (World Travel & Tourism Council, 2019). Tourism makes important contributions to the Gross Domestic Product of the countries, with Latin America having significant growth (see Figure 2).

Figure 2. Direct contribution in billions of USD from the travel sector and turism to Gross Domestic Product (GDP) in Latin America (2012 and 2018)



Source: Own elaboration, with data obtained from World Travel & Tourism (2019, p. 8).

Despite the benefits of tourism revenues, some claim that these incomes do not reduce poverty but strengthen inequality (Mahadevan & Suardi, 2019). In Central America, poverty elasticities varied, having strong effects in Costa Rica, Guatemala and Nicaragua and moderate to weak effects in Salvador and Honduras (MacNeill & Wozniak, 2018). In China, tourism is benefitial when accommodation and restaurant services are built by the same local residents, while with capital investments made

Retos, 9(18), 2019

by private companies, locals were not benefiting with the growth of the sector (Lor, Kwa & Donaldson, 2019).

In many cases it has been suggested that tourism alleviates poverty as long as social inclusion programs are generated (Medina-Muñoz, Medina-Muñoz & Gutiérrez-Pérez, 2016a). In Kenya, tourism was found to significantly reduce the gap between poverty and extreme poverty, with a greater impact on urban areas than in rural areas (Njoya & Seetaram, 2017). Similarly, others consider that corporate tourism impacts the reduction of local, regional and national poverty (Medina-Muñoz, Medina-Muñoz & Gutiérrez-Pérez, 2016b). Efforts have been made to empower communities to be players in tourism development in their region as is the case of Peru, although the concrete results have not been quantified in their entirety (Knight & Cotterll, 2016).

Recent researches suggest that changing the negative aspects of tourism and making it more equitable and sustainable should shift the focus from fostering economic growth to considering socio-political aspects of poverty and how inequalities structural issues are limiting people's development (Scheyvens & Hughes, 2018; Truong, 2018).

For its part, studies that consider the long-term effects that climate change may have on tourist flow patterns have also been developed (Bujosa, Riera & Torres, 2015), so that for the development of sustainable tourism, the vulnerabilities involving the climatic, economic, social and political factors of the environment must be evaluated (Dogru, Marchio, Bulut & Suess, 2019).

In a general sense, there is a contrast in the impact tourism can have on poverty reduction. Tourism in Latin America and the Caribbean is still in an initial development phase, making it a great investment and growth opportunity, knowing the potential and advantages offered by the abundant natural resources typical of the region.

2.3. The role of Blockchain technology in supply chain management, logistics and smart contracts

The most discussed topics in the literature where blockchain technology can generate significant changes are around smart contracts, supply chain management and logistics. Blockchain technology is considered the largest innovation in computer science, as well as the biggest disruptor of industries since the introduction of the Internet (Kshetri, 2017b). The technological features of the blockchain lend to the processing of smart contracts where settlement payments and financial payments can be triggered automatically by specific events. The study of lansiti and Lakhani (2017) analyzes a scenario of a smart contract in which blockchain technology is used to automate a payment to a supplier as soon as the shipment is received via GPS, tracking the goods, monitoring delivery to trigger vendor payment (lansiti & Lakhani, 2017).

The traditional supply chain process is based on external intermediaries acting as guarantors of assets and mechanism for securing property of goods. By implementing blockchain-based solutions, all parties can automatically determine ownership of the goods, approve the shipment and activate payments once received (Dobrovnik *et al.*, 2018). Organizations are reviewing their processes and business models that seek to identify key use cases where blockchain can add value and deliver benefits (Ying, Jia & Du, 2018; Zamani & Giaglis, 2018).

The potential of blockchain technology has already been recognized by the financial sector and large companies such as IBM, Deutsche Bank, HSBC, Société Générale and UniCredit, just to name a few, are building systems to facilitate commerce in small and medium-sized companies (Önder &Treiblmaier, 2018). A reduction in transaction costs for small payments can be significant enough to decide the success or failure of a business model. Blockchain can reduce transaction costs for all hybrid models of social enterprises, whose financial sustainability is based in part on donations or public support. By adopting innovative blockchain-based technologies, it is also possible to reduce the costs of raising capital, avoiding intermediaries and payment agents.

For conventional financing media, more than $1 billion flows each year from individuals, governments, and businesses to address the challenges of poverty and crisis around the world (Carraro, 2017). The distribution and monitoring of global development funds and humanitarian aid remains complex, opaque and hugely inefficient (World Bank, 2017). Lack of transparency is also a key issue, as there is an inability to track end-to-end flow of funds. The UN estimates that up to 30% of official development assistance is lost due to fraud and corruption. In the field, organizations face multiple barriers to ensuring full transparency of the distribution of funds (Thomason *et al.*, 2018).

With regard to the cost reduction involved in the use of blockchain technologies, the difference is significant in relation to conventional forms of payment when it comes to small exchanges such as donations or microcredits for oriented farmer tourism for developing countries (Dierksmeier and Seele, 2018). Blockchain technology has the potential to contribute to a number of UN Sustainable Development Goals (Hughes *et al.*, 2019).

Feasibility projects developed by Walmart and IBM to use blockchain technology to specifically monitor food-based products in the United States and China helped significantly reduce the time it takes to make a tracking food from days to minutes (Kshetri, 2018a). The Hainan Airlines Group (HNA) in China developed a blockchain-based e-commerce system for its employees to purchase products directly from external suppliers. The system went online in February 2015 with 2000 participating suppliers and was considered a successful implementation (Ying, Jia & Du, 2018). Blockchain technology is promising and a successful implementation in the field of tourism could contribute more effectively to the poverty reduction.

2.4. *Legal status of cryptocurrencies and blockchain technology*

Governments, although late in recognizing the importance of Bitcoin, are now considering both regulation and taxes on this cryptocurrency (Holub & Johnson,2018). In many scenarios, Bitcoin regulation is not seen as a pressing problem for governments, but rather the fact that severe regulation based on the worst-case scenarios could easily stifle the opportunities offered by such innovation (De Filipi & Loveluck, 2014). Generally speaking, the discussion and implementation of an appropriate legal framework is relatively underdeveloped (Tu, 2018). The same is true for blockchain

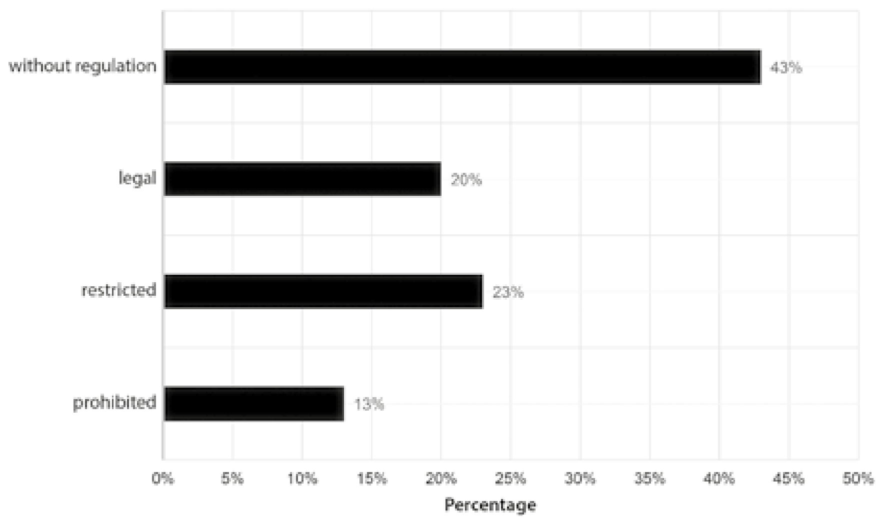
Retos, 9(18), 2019

technology, although organizations seem to be actively reviewing the blockchain at the strategic level, the huge challenges in regulations highlight the immaturity of the technology (Lacity, 2018). Most countries in the world have not adopted a legal framework on the use of cryptocurrencies and blockchain, however, enough advances have already been made.

In Russia, the government has recognized that an absolute ban on cryptocurrency would not bring positive results and is seeking its own approach to cryptocurrency legal regulation. In the case of blockchain technology, it has begun to be used as a system to record real estate transactions (Zharova & Lloyd, 2018). Japan is another case where cryptocurrencies have been accepted as a means of exchange. In the field of blockchain technology, work is being done to unify the entire register of urban and tourist properties. For example, in Vietnam the state prohibits the use of cryptocurrencies and penalizes with fines of up to US$ 8800 (Garcia, 2018). In the case of Europe, Bitcoin has already been accepted by the European Court of Justice as a valid currency and is exempted from sales tax (Önder & Treiblmaire, 2018). Germany recognizes Bitcoin as a financial instrument and can be used for commercial and tax purposes. In Spain, purchases and sales of cryptocurrencies are recognized as economic activities and are exempted from taxes.

For Latin American and Caribbean countries, most do not have a regulatory framework that incentiviates activities with cryptocurrencies and blockchain (see Figure 3). Even in countries such as Bolivia and Ecuador, financial activities with Bitcoin are expressly prohibited.

Figure 3. Legal status on the use of cryptocurrencies in Latin America and the Caribbean during 2018 (%)



Source: Own elaboration, based on the data of Library of Congress (2018, p.1).

p-ISSN: 1390-6291; e-ISSN: 1390-8618

3. Discussion and conclusions

In the Latin American and Caribbean context, tourism has enormous potential and its impact on GDP can be increased further since this economic field remains in the initial phase of development. Based on the UN's Sustainable Development Goals (SDGs), the implementation of blockchain technology and cryptocurrencies in the framework of tourism can help reduce poverty in Lation America. Blockchain technology could make a significant change in sustainability aspects that affect health, drug distribution and humanitarian supplies.

There are problems in the integrity of medicines and basic foodstuffs where the challenge of implementation and logistics management across language barriers and geographical diversity is a major challenge. Blockchain attributes could offer benefits in Latin American and Caribbean countries where technology could be used to ensure quality and commitment to education in all its forms. Financial and logistical commitments to education and gender equality of central and regional authorities would be included in smart contracts among all stakeholders. Contracts related to the development of the infrastructure needed for the development of tourism to ensure clean water, sanitation and energy could be managed through blockchain technology, ensuring that fraud would be minimized, and higher levels of trust between the parties would be developed. The immutable nature of blockchain and transparency of transactions can generate wage protection and reduce exploitation among tourism workers.

Given the enormous tourism capacities of the Latin American and Caribbean regions, efforts by governments and private companies must be set to implement tourism development in regions and localities with great biodiversity and natural and cultural resources still unexplored. To this end, governments should encourage the development of microcredits to small and medium-sized cryptocurrency tourism entrepreneurs, taking advantage of the relatively covered communications and Internet access in Latin America and the Caribbean. This would leverage the empowerment of communities to be a player in the creation of ICO-driven enterprises, with the proper regulation and support of governments and private companies.

On the other hand, access to the Internet via mobile telephony must be further strengthened to facilitate payment systems and to enable blockchain-based technologies to be developed fully. In this way, the path is prepared to install a whole network of payment systems in Bitcoins and other cryptocurrencies that allow to pay goods and services, exchange for other fiat currencies and build a whole network of ATMs cryptocurrency, the implementation of which has already been observed in other countries.

In this way, the volume of transactions with cryptocurrencies increases, planning and executing those tourist packages with payment methods with cryptocurrencies, and in addition all the organization of the trip: hotels, transport, food, among others is paid by blockchain technologies. This requires the state to promote, accelerate and provide legal regulations for the use of cryptocurrencies, increasing the investor confidence.

Likewise, to motivate and educate communities in the creation of micro and medium-sized tourism companies whose logistics are managed by blockchain technology, using financing sources through ICOs, in which "tokens" are offered and can be exchanged for other fiat currencies, for other cryptocurrencies and other goods and services that benefit both the community, the tourist and the investor. New opportunities arise as transaction costs and intermediary institutions disappear. Given the huge amount of money currently invested in blockchain-based solutions and its industry-wide nature, the impact on the business sector especially in the tourism industry can be expected to be substantial and bring as a result an improvement in the living conditions in the most disadvantaged populations.

Research on the effect of blockchain technology and cryptocurrencies on tourism on literature is scarce, so it is suggested to investigate more on the subject from a correlational perspective. Being the tourism market in Latin America emerging, blockchain technology and cryptomondeas can be implemented with less difficulty than in those countries where tourism is already developed. Research into successful case studies at other latitudes can give light on replicating experience in Latin America and the Caribbean. Through government policies, a diagnosis of tourism potential should be made and a cryptocurrency-based economy adaptation should be coupled with private enterprise for accessing to health services, education and opportunities through the use of mobile technology. In this way, the most disadvantaged populations can increase income by setting fair prices in the exchange of goods and services or in the equitable distribution of profits by blockchain.

References

Adhami, S., Giudici, G., & Martinazzi, S. (2018). Why do bussinesses go crypto? An empirical analysis of Initial Coin Offerings. *Journal of Economics and Business*, *100*, 64-75. https://doi.org/10.1016/j.jeconbus.2018.04.001

Adiyia, B., Vanneste, D., Van Rompaey, A., & Ahebwa, W. M. (2014). Spatial analysis of tourism income distribution in the accomodation sector in western Uganda. *Tourism and Hospitality Research*, *14*(1-28-26. https://doi.org/10.1177%2F1467358414529434

Aysan, A. F., Demir, E. Gozgor, G., & Marco, C. K. (2019). Effects of the geopolitical risks on Bitcoin returns and volatility. *Research in International Business and Finance*, *47*, 511-518. https://doi.org/10.1016/j.ribaf.2018.09.011

Bujosa, A. Riera, A., & Torres, C. (2015). Valuing tourism demand attributes to guide climate change adaptation measures efficiently: The case of the Spanish domestic travel market. *Tourism Management*, *47*, 233-239. https://doi.org/10.1016/j.tourman.2014.09.023

Carraro, C. (2017). *Towards a greener finance landscape*, A blog by Carlo Carraro, 28 de marzo de 2017. Recuperado de https://bit.ly/2KxsT3R [Fecha de consulta: 19 de febrero de 2019]

Chen, Y. (2018). Blockchain tokens and the potential democratization of entrepreneurship and innovation. *Business Horizons*, *61*(4), 567-575. https://doi.org/10.1016/j.bushor.2018.03.006

Chirenje, L. I. (2017). Contribution to ecotourism to poverty alleviation in Nyanga, Zimbabwe. *Chinesse Journal of Population Resources and Environment*, *15*(2), 87-92. https://doi.org/10.1080/10042857.2017.131Economía, 9(18)2

Croes, R., & Rivera, M. (2015). The Poverty Obliteration Paradigm. En M. Khan (Series Ed.), *Advances in Hospitality Series*. *Poverty Alleviation through Tourism Development: A Comprehensive and integrated Approach* (pp. 47-74). New York, Estados Unidos: Apple Academic Press. https://doi.org/10.1201/b19841

Danquah, M., & Iddrisu, A. M. (2018). Access to mobile phones and the wellbeing of non-farm enterprise households: Evidence from Ghana. *Technology in Society*, *54*, 1-9. https://doi.org/10.1016/j.techsoc.2018.01.012

De Filipi, P., & Loveluck, B. (2016). The Invisible Politics of Bitcoin: Governance Crisis of a Decentralised Infrastructure. *Internet Policy Review*, *5*(3), 1-28. https://doi.org/10.14763/2016.3.427

Dhillon, V., Metcalf, D., & Hooper, M. (2018). *Blockchain Enabled Applications: Understand the Blockchain Ecosystem and How to Make it Work for You*. California, Estados Unidos: Apress. https://doi.org/10.1007/978-1-4842-3081-7

Dierskmeier, C. & Seele, P. (2018). Cryptocurrencies and Business Ethics. *Journal of Business Ethics*, *152*(1), 1-14. https://doi.org/10.1007/s10551-016-3298-0

Dobronik, M., Herold, D. M., Furst, E., & Kummer, S. (2018). Blockchain for and in Logistics: What to Adopt and Where to Start. *Logistics*, *2*(3), 18-32. https://doi.org/10.3390/logistics2030018

Dogru, T. Marchio, E.A., Bulut, U., & Suess, C. (2019). Climate change: Vulnerability and resilience of tourism and the entire economy. *Tourism Management*, *72*, 292-305. https://doi.org/10.1016/j.tourman.2018.12.010

Fisch, C. (2019). Initial coin offerings (ICOs) to finance new ventures. *Journal of Business Venturing*, *34*(1), 1-22. https://doi.org/10.1016/j.jbusvent.2018.09.007

García, J. (2018), *Criptomonedas y Aplicación en la Economía* (Tesis de Maestria). Universidad Pontificia Comillas, España. Recuperado de: http://hdl.handle.net/11531/32886

Goh, H. C. (2015). Nature and Community-based tourism (CBT) for poverty alleviation: A case study of Lower Kinabatangan, East Malaysia. *Geografia Malaysian Journal of Society and Space*, *11*(3), 42-52. Recuperado de: https://bit.ly/2GTlg6G

GSMA Intelligence (2018). *La Economía móvil en América Latina y el Caribe*, 03 de noviembre de 2018. Recuperado de http://bit.ly/2JnHTm8 [Fecha de consulta: 15 de febrero de 2019]

Haenssgen, M.J. (2018). The struggle for digital inclusion: Phones, healthcare and marginalization in Rural India. *World Development*, *104*, 358-374. https://doi.org/10.1016/j.worlddev.2017.12.023

Hill, J. (2018). *FinTech and the Remaking of Financial Institutions*. Estados Unidos: Academic Press. https://doi.org/10.1016/C2016-0-03863-9

Holub, M., & Johnson J. (2019). Bitcoin research across disciplines. *The Information Society*, *34*(2), pp. 114-126. https://doi.org/10.1080/01972243.2017.1414094

Hughes, L., Dwivedi, Y. K., Misra, S.K., Rana, N.P., Raghavan, V., & Akella, V. (2019). Blockchain research, practice and policy: Applications, benefits, limitations, emerging research themes and research agenda. *International Journal of Information Management*, *49*, 114-129. https://doi.org/10.1016/j.ijinfomgt.2019.02.005

Iansiti, M., & Lakhani, K.R. (2017). The truth about blockchain. *Harvard Business Review*, *95*(1), 118-127. Recuperado de: https://hbr.org/2017/01/the-truth-about-blockchain

Ikeda, K., & Hamid M. (2018). Application of Blockchain in the Financial Sector and a Peer-to-Peer Global Barter Web. En P. Raj y G. C. Deka (Eds.), *Advances in Computers: Vol. 111. Blockchain Technology: Platforms, Tools and Use Cases* (pp. 99-120). Estados Unidos: Academic Press. https://doi.org/10.1016/bs.adcom.2018.03.008

Jiang, M., DeLacy, T., Mkiramweni, N.P., & Harrison, D. (2011). Some evidence for tourism alleviating poverty. *Annals of Tourism Research*, *38*(3), 1181-1184. https://doi.org/10.1016/j.annals.2011.03.008

Jing, W., Jia, S., & Du, W. (2018). Digital enablement of blockchain: Evidence from HNA group. *International Journal of Information Management*, *39*, 1-4. https://doi.org/10.1016/j.ijinfomgt.2017.10.004

Kastelein, R. (2017). *What Initial Coin Offerings Are, and Why VC Firms Care*. Harvard Business Review, 24 de marzo del 2017. Recuperado de https://bit.ly/2mZgh81

Kim, K., Uysal, M., & Sirgy, J. (2013). How does tourism in a community impact the quality of life of community residents?, *Tourism Management*, *36*, 527-540. https://doi.org/10.1016/j.tourman.2012.09.005

Knight, D.W., & Cottrell, S.P. (2016). Evaluating tourism-linked empowerment in Cuzco, Perú. *Annals of Tourism Research*, *56*, 32-47. https://doi.org/10.1016/j.annals.2015.11.007

Kshetri, N. (2017a). Potential roles of blockchain in fighting poverty and reducing financial exclusion in the global south. *Journal of Global Information Technology Management*, *20*(4), 201-204. https://doi.org/10.1080/1097198X.2017.1391370

Kshetri, N. (2018a). Blockchain's roles in meeting key supply chain management objectives. *International Journal of Information Management*, *39*, 80-89. https://doi.org/10.1016/j.ijinfomgt.2017.12.005

Kshetri, N. (2017b). Will blockchain emerge as a tool to break the poverty chain in the Global South? *Third World Quarterly*, *38*(8), 1710-1732. https://doi.org/10.1080/01436597.2017.1298438

Lacity, M. C. (2018). Addresing Key Challenges to Making Enterprise Blockchain Applications a Reality. *MIS Quarterly Executive*, *17*(3), 201-222.

Lahajnar, S., & Rožanec, A. (2018). Initial Coin Offering (ICO) Evaluation Model. *Investment Management and Financial Innovations*, *15*(4), 169-182. http://dx.doi.org/10.21511/imfi.15(4).2018.14

Lashitew, A. A., Van Tulder, R., & Liasse, Y. (2019). Mobile phones for financial inclusion: What explains the diffusion of mobile money innovations. *Research Policy*, *48*(5), 1201-1215. https://doi.org/10.1016/j.respol.2018.12.010

Li, K. X., Jin, M., & Shi, W. (2018). Tourism as an important impetus to promoting economic growth: A critical review. *Tourism Management Perspectives*, *26*,. 135-142. https://doi.org/10.1016/j.tmp.2017.10.002

Li, T., Liu, J., Zhu, H., & Zhang, S. (2018). Business characteristics and efficiency of rural tourism enterprises: an empirical study from China. *Asia Pacific Journal of Tourism Research*, *23*(6), 549-559. https://doi.org/10.1080/10941665.2018.1483957

Library of Congress (2018). *Regulation of Bitcoin in Selected Jurisdictions*, 23 de Julio de 2018. Recuperado de http://bit.ly/2V7pk7F [Fecha de consulta: 16 de febrero de 2019]

Lor, J.J., Kwa, S., & Donaldson, J.A. (2019). Making ethnic tourism good for the poor. *Annals for Tourism Research*, *76*, 140-152. https://doi.org/10.1016/j.annals.2019.03.008

MacNeill, T., & Wozniak, D. (2018). The economic, social and environmental impacts of cruise tourism. *Tourism Management*, *66*, 387-404. https://doi.org/10.1016/j.tourman.2017.11.002

Mahadevan, R., & Suardi, S. (2019). Panel evidence on the impact of tourism growth on poverty, poverty gap and income inequality. *Current Issues in Tourism*, *22*(3), 253-264. https://doi.org/10.1080/13683500.2017.1375901

Medina-Muñoz, D.R., Medina-Muñoz, R.D., & Gutiérrez-Pérez, F.J. (2016a). The impacts of tourism on poverty alleviation: an integrated research framework. *Journal of Sustainable Development*, *24*(2),. 270-298. https://doi.org/10.1080/09669582.2015.1049611

Medina-Muñoz, D.R., Medina-Muñoz, R.D., & Gutiérrez-Pérez, F.J. (2016b). A Sustainable Development Approach to Assessing the Engagement of Tourism Enterprises in Poverty Alleviation. *Sustainable Development*, *24*(4), 220-236. https://doi.org/10.1002/sd.1624

Merediz-Solà, I., & Bariviera, A.F. (2019). A bibliometric analysis of bitcoin scientific production. *Research in International Business and Finance*, *50*, 294-305. https://doi.org/10.1016/j.ribaf.2019.06.008

Mushtaq, R., & Bruneau, C. (2019). Microfinance, financial inclusion and ICT: Implications for poverty and inequality. *Technology in Society*, *59*. Advance online publication. https://doi.org/10.1016/j.techsoc.2019.101154

Naciones Unidas. Comisión Económica para América Latina y el Caribe. (2019). *La Agenda 2030 y los Objetivos de Desarrollo Sostenible. Una oportunidad para América Latina y el Caribe*. Chile: Naciones Unidas. Recuperado de http://bit.ly/2VNVfhV

Naciones Unidas. Comisión Económica para América Latina y el Caribe (2018). *Ruralidad, hambre y* pobreza en América Latina y el Caribe. Chile: CEPAL-FAO. Recuperado de http://bit.ly/2POhlvm

Nakamoto, S. (2008). *Bitcoin: A Peer-to-Peer Electronic Cash System*, 15 abril del 2008. Recuperado de http://bit.ly/2DTCfnX [Fecha de consulta: 16 de febrero de 2019]

Narayan, P. K., Narayan, S., Rahman, R. E., & Setiawan, I. (2018). Bitcoin Price Growth and Indonesia's Monetary System. *Emerging Markets Review*. *38*, 364-376. https://doi.org/10.1016/j.ememar.2018.11.005

Njoya, E. T., & Seetaram, N. (2018). Tourism Contribution to Poverty Alleviation in Kenya: A Dynamic Computable General Equilibrium Analysis. *Journal of Travel Research*, *57*(4), 513-524. https://doi.org/10.1177/0047287517700317

Nolan, A. R., Dartley, E. T., Baker, M.B., ReVeal, J., & Rinearson, J.E. (2018). Initial Coin Offerings: Key US Legal Considerations for ICO investors and sponsors. *Journal of Investment Compliance*, *19*(1), 1-9. https://doi.org/10.1108/JOIC-02-2018-0016

Önder, I., & Treiblmaier, H. (2018). Blockchain and tourism: Three research propositions. *Annals of Tourim* Research, *72*, 180-182. https://doi.org/10.1016/j.annals.2018.03.005

Organizacion Internacional del Trabajo (2001). *Resolución y conclusiones relativas a la seguridad Social*. Recuperado de http://bit.ly/2E5GhtR

Panagioditis, T., Stengos, T., & Vravosinos, O. (2018). The effects of markets, uncertainty and search intensity on bitcoin returns. *International Review of Financial Analysis*, *63*, 220-242. https://doi.org/10.1016/j.irfa.2018.11.002

Pilkington, M., Crudu, R., & Grant, L.G. (2017). Blockchain and bitcoin as a way to lift a country out of poverty – tourism 2.0 and e-governance in the Republic of Moldova. *International Journal of Internet Technology and Secured Transactions*, *7*(2), 115-143. https://dx.doi.org/10.2139/ssrn.2732350

Ravello, J. (2012). *30 percent of aid lost to corruption – Ban Ki-moon*, Blog: devex, 10 de julio del 2012. Recuperado de http://bit.ly/2Jn6kzP [Fecha de consulta: 15 de febrero de 2019]

Sharpley, R., & Naidoo, P. (2010). Tourism and Poverty Reduction: The Case of Mauritius. *Tourism and Hospitality Planning & Development*, *7*(2), 145-162. https://doi.org/10.1080/14790531003737169

Shen, D., Urquhart, A.,& Wang, P. (2019). Does twitter predict Bitcoin? *Economics Letters*, *174*, 118-122. https://doi.org/10.1016/j.econlet.2018.11.007

Scheyvens, R. & Hughes, E. (2018). Can Tourism help to "end poverty in all its forms everywhere"? The challenge of tourism addressing SDG1. *Journal of Sustainable Tourism*, *27*(7), 1061-1079. https://doi.org/10.1080/09669582.2018.1551404

Snyman, S.L. (2012). The role of tourism employment in poverty reduction and community perceptions of conservation and tourism in southern Africa. *Journal of Sustainable Tourism*, *20*(3),. 395-416. https://doi.org/10.1080/09669582.2012.657202

The World Bank (2017). *Remittance prices worldwide: An analysis of trends in cost of remittance services*. Recuperado de http://bit.ly/2JmskuR

Thomas, R., & Koens, K. (2016). "You know that´s a rip-off": policies and practices surroundings micro-enterprises and poverty alleviation in South African township tourism. *Journal of Sustainable Tourism*, *24*(12), 1641-1654. https://doi.org/10.1080/09669582.2016.1145230

Thomason, J., Ahmad, M., Bronder, P., Hoyt, E., Pocock, S., Bouteloupe, J., …& Shrier. D. (2018). Blockchain-Powering and Empowering the Poor in Developing Countries. En A. Marke (Ed.), *Transforming Climate Finance and Green Investment with Blockchains* (pp. 137-152). London, UK: Elsevier.

Truong, V.D. (2018). Tourism, poverty alleviation and the informal economy: the street vendors of Hanoi, Vietnam. *Tourism Recreation Research*, *43*(1), 52-67. https://doi.org/10.1080/02508281.2017.1370568

Tu, K.V. (2018). Perfecting Bitcoin. *Georgia Law Review*, *52*(2), 505-580.

Tucker, H., & Boonabaana, B. (2012). A critical analysis of tourism, gender and poverty reduction. *Journal of Sustainable Tourism*, *20*(3), 437-455. https://doi.org/10.1080/09669582.2011.622769

Tumusiime, D.M., & Vedeld, P. (2012). False promise or False Premise? Using Tourism Revenue Sharing to Promote Conservation and Poverty Reduction in Uganda. C*onservation and Society*, *10*(1), 15-28. https://doi.org/10.4103/0972-4923.92189

Retos, 9(18), 2019

United Nations, Commission on Sustainable Development. (1999). *El turismo y el desarrollo sostenible*, 15 de enero de 1999. Recuperado de http://bit.ly/2JBawfm

Vincent, O., & Evans, O. (2019). Can cryptocurrency, mobile phones, and internet herald sustainable financial sector development in emerging markets? *Journal of Transnational Management*, *24*(3), 259-279. https://doi.org/10.1080/15475778.2019.1633170

World Travel & Tourism Council (2019). *Travel & Tourism. Economic Impact 2019 World*. Recuperado de http://bit.ly/2NY5Kg2

Yadav, M. (2017). Exploring Signals for Investing in an Initial Coin Offering (ICO), *SSRN Electronic Journal*. http://dx.doi.org/10.2139/ssrn.3037106

Yu, L., Wang, G., & Marcouiller, D.W. (2019). A scientometric review of pro-poor tourism research: Visualization and analysis. *Tourism Management Perspectives*, *30*, 75-88. https://doi.org/10.1016/j.tmp.2019.02.005

Zamani, E.D., & Giaglis, G. M. (2018). With a little help from the miners: Distributed ledger technology and market disintermediation. *Industrial Management & Data Systems*, *118*(3), 637-652. http://dx.doi.org/10.1108/IMDS-05-2017-0231

Zeng, B., Ryan, C., Cui, C., & Chen, H. (2015). Tourism-generated Income Distribution in a Poor Rural Community: A Case Study from Shaanxi, China. *Journal of China Tourism Research*, *11*(1), 85-104. https://doi.org/10.1080/19388160.2014.953281

Zharova, A., & Lloyd, I. (2018). An examination of the experience of cryptocurrency use in Russia. In search of better practice. *Computer Law and Security Review*, *34*(6), 1300-1313. https://doi.org/10.1016/j.clsr.2018.09.004

Retos, 9(18), 2019
Revista de Ciencias de la Administración y Economía | ISSN impreso: 1390-6291; ISSN electrónico: 1390-8618

www.retos.ups.edu.ec

Model of statistical estimation «Program of Productive Inclusion» MIPRO-Ecuador

Modelo de estimación estadística «Programa Inclusión Productiva» MIPRO-Ecuador

Juan C. Escobar Sailema, es profesor e investigador en la Escuela de Formación de Soldados del Ejército (Ecuador). (juan.escobar145@gmail.com) (https://orcid.org/0000-0002-5076-1129).

Abstract

This research demonstrates the incidence of demand estimates on the profitability of the enterprises advised within the «Productive Inclusion» program carried out by the Ministry of Industries and Productivity-Mipro (Ecuador). The academic-practical contribution that derives from the present object of study will be inputs for this Ministry, its corresponding zones, departments and for those who give adequate use of the final product. The objective of this work is to determine the incidence of a statistical estimation model of the demand in the improvement of the profitability of the enterprises, which includes evaluating the estimation model of the used demand to determine the levels of profitability, the variables of incidence, and to identify the components of a statistical estimation model. These objectives were achieved through data collection, numerical measurement, and statistical analysis of the data. The target population is comprised of 702 enterprises, classified into 4 productive sectors: trade in goods, trade in services, manufacturing and agriculture. Establishing a sample of 248 observations with a 95% confidence level and a standard deviation of 0.5, the result obtained is the design of a statistical estimation model of the demand and its applicability, whose accuracy is statistically and financially acceptable, which means the improvement of the profitability of the enterprises assessed and the fulfillment of the institutional objectives.

Resumen

La presente investigación demuestra la incidencia de estimaciones de demanda sobre la rentabilidad de los emprendimientos asesorados dentro del programa de «Inclusión Productiva» que lleva a cabo el Ministerio de Industrias y Productividad-Mipro (Ecuador). El aporte académico-práctico que derive del presente objeto de estudio serán insumos para dicho Ministerio, sus respectivas zonales, direcciones y para quienes den uso adecuado del producto final. El objetivo de este trabajo es determinar la incidencia de un modelo de estimación estadística de la demanda en el mejoramiento de la rentabilidad de los emprendimientos, lo que incluye evaluar el modelo de estimación de la demanda empleado, determinar los niveles de rentabilidad, las variables de incidencia, e identificar los componentes de un modelo de estimación estadística. Dichos objetivos fueron alcanzados mediante la recolección de información, medición numérica y el análisis estadístico de los datos. La población objeto de estudio está comprendida por 702 emprendimientos, clasificados en 4 sectores productivos: comercio de bienes, comercio de servicios, manufactura y agropecuario. Estableciendo una muestra de 248 observaciones con un 95% de nivel de confianza y una desviación estándar 0,5, el resultado obtenido es el diseño de un modelo de estimación estadística de la demanda y la aplicabilidad de este, cuya precisión es totalmente aceptable estadística y financieramente, lo que significa el mejoramiento de la rentabilidad de los emprendimientos asesorados y el cumplimiento de los objetivos institucionales.

Keywords | palabras clave

Statistical, entrepreneurship, analysis, estimation, methods, prospective.
Estadístico, emprendimientos, análisis, estimación, métodos, prospectivos.

Suggested citation: Escobar Sailema, J.C. (2019). Model of statistical estimation «Program of Productive Inclusion» MIPRO-Ecuador. *Retos Journal of Administration Sciences and Economics,* *9*(18), 291-311. https://doi.org/ 10.17163/ret.n18.2019.08

Received: 02/06/19 | Reviewed: 07/08/19 | Approved: 07/18/19 | Published: 10/01/19

Retos, 9(18), 2019

1. Introduction and state-of-the-art

A global, statistical estimation as part of economic science is one of the most important areas in business. These estimates have made it possible to make timely and reliable consumer demand interpretations for the decision-making (Cadena *et al.*, 2017), as well as to have relevant information on product replacement. Alvarado y Pinos (2017), Vergara *et al.*, (2017) and García-Guerrero (2014) mention that the development of the estimates is analyzed with sociodemographic variables that directly affect the demand of a product whether this is a good or service and consequently some economic policy issues that are the cause of changes in the consumer market, axiomatically assuming consumer preferences towards real demand as the main axis for forecasting in companies (Reyes-Sánchez, 2017).

Statistical methods in Latin America are being applied more frequently and discussed on a large scale in different areas such as business, agriculture, manufacturing, productive activities and government; being the fundamental axis in decision-making for business leaders and/or organizations. These are reflected in their economic and financial development and the future impact scenario of their factors. At the same time, the misapplication of estimation methods has been the cause of poor decisions at higher hierarchical levels, poor production planning and low profitability. The most used models have been time series, involving the use of linear regression, simple moving averages, double exponential smoothing, simple exponential smoothing, Naïve Method, ARIMA models (Autoregressive Integrated Moving Average) among others. These models are also used for estimating yield trends of various crop types and even livestock production yields (Delgadillo *et al.*, 2016).

In Ecuador, since 2013 the program called "Productive Inclusion" is carried out by the Ministry of Industries and Productivity (MIPRO), which advises entrepreneurs in the different productive sectors with the elaboration of a business plan and demand projections; this under a financial estimation model as an intrinsic and substantial component, which consists of a five-year predicted financial structure, taking into account indicators such as the rate of production growth, price growth rate, financial discount rate, inflation rate, interest rate, financing term and others considered by the specialist for the analysis and projection. The estimates of nationally advised entrepreneurs keep an error in most cases of more than twenty percent to this day, noting that the model and use of demand estimation tools -forecast- used is at least, very questionable, especially in terms of the current financial performance of the companies implemented, resulting in unfavorable financial performance that leads to low profitability.

Valencia-Cruzaty (2017), Moscoso-Escobar and Botero-Botero (2013) and Toca-Torres (2010), consider entrepreneurship as the most used formula in times of complex economic situation, framing all economic and social sectors for its development. In addition, it is recognized as a catalyst for the economic growth of countries, implemented both by private enterprise internally, as well as in the public sector (government), creating new products, markets, generating employment and well-being for the population.

p-ISSN: 1390-6291; e-ISSN: 1390-8618

Therefore, it is necessary to implement new models, methodologies, techniques, tools and estimation tools for the proper development of entrepreneurship in terms of profitability, as well as ensuring adequate investment and financing, while being important to obtain reliable sources of information, thus generating effectiveness in predicting future business events. It is also important to introduce to the analysis success factors that minimize risk in the implementation and operation of the business such as: production based on real demand, estimation indicators and forecasting methods according to the productive sector.

Predicting the future scenario of organizations and all production processes for a better financial performance has historically been a purely technical and complicated task, because optimal prediction is required for a proper management of productive factors that affect planning. In doing so, entrepreneurs have been able to determine the company's ability to acquire and produce the required amount required for supplies and products demanded, and thus predict in advance the budget needed to avoid errors within its using models based on quantitative methods contrasted with causal variables, plus the use of probabilities that complement each other to generate more accurate predictions (Lao-León *et al.*, 2017).

Boada (2017a) presents a study in which it is verified through real data how the Bayesian Dynamic Linear Model of Order 1 can be applied on the residuals - difference between the estimates and the current historical ones - taken randomly from a Model of Multiple Regression, thus obtaining a complement to the statistical estimation model, which generates a factor that favors from waste and adjusts according to the most recent historical data, unifying two trends: Bayesian statistics and the frequent statistics into a single model, concluding that: a) the most accurate valuation or rigorous analysis of causal variables as a statistical modeling procedure ensures the predictive power of multiple regression models, in addition; b) the simulation of future scenarios close to reality will depend on the correct use of the techniques used in the model plus the strategies generated by the predictor and finally; c) it is mentioned that establishing a statistical modeling procedure complemented by quantitative and qualitative techniques serves as a fundamental tool for the creation of an optimal prediction model.

Moreno-Arenas (2016) proposes the design of a statistical estimation model (forecast) from time series methods. This model aims to reduce the demand variability of packaging inputs, concluding that: a) the use of time series methods accurately identifies changes in variable dynamics in terms of obtaining reliable information; b) measuring inventory rotations from projection standardization is the result of time series analysis, which helps to improve the company's storage situation and; c) ERP-enterprise resource planning systems as a source of information improve the type of analysis and reduce data deviation.

Boada (2017b) exposes the design of an automated prediction tool based on different market variables. It is based on a detailed analysis of the causal variables identified, and then it develops a software called "Demand Projection System" to predict sales, analyzing price, product, billing, manufacturing, future planning of strategic sales management, among others; (a) the design and adaptation of correct estimation techniques in order to obtain more effective forecasts; b) considering the automated projection system as a statistical tool and not as a competitor of the estimator and; c) also ensuring the valuation, simulation and optimal evaluation of various future scenarios, being the fundamental basis of the long-term plans of the different areas of the company, such as finance and accounting.

Sánchez and Gavira (2016) take into account the hierarchy of the series containing the necessary unobserved components of time series (random variations, cyclicality, trend, and seasonality), this to make a short-term estimate, contributing in this way to the development of the forecast theory of hierarchical series. In addition, the most efficient model for forecasting monetary income for the case study is determined, using as a criterion the mean absolute scaled error (MASE), concluding that for this study: a) the most efficient method of forecasting is ARIMA , without ruling out that several methods (TD-ETS, COMB-ARIMA, TD-ARIMA and MO-ARIMA) can be employed with a better result; b) the application of the method depends on the complexity of the study and the variability of the series; (c) also highlighting the importance of contrast on the evaluation and determination of the most suitable methods with other approaches.

Contreras *et al.* (2016) consider forecasting as a tool that provides a quantitative estimation of probability, also considering the development of future estimates on the storage of perishable products due to the impact of economic and social estimates that they generate with erroneous estimates. Hence, the interest in incorporating time series forecasting techniques with the aim of determining the most reliable method to estimate optimal storage volumes and to be able to predict requirements in the supply chain, concluding that: a) the forecasts developed using the weighted mobile averages technique are the most acceptable in product mobility planning; b) thus ensuring storage availability, extension of expiry and market supply for as long as possible and; c) maintaining a balance between market demand and production.

Espino-Timón (2017) aims to determine the existence of open source tools that meet the requirements for predictive analysis and the operation evaluation of these tools in different areas, the two main tools identified are: R, with the graphical interface R-Studio, and Weka, which allow to detect patterns in the base data to establish more optimal future forecasts. Statistical analysis tools (SPSS, SAP Business Suite or SAS Software Package), used by large corporations, companies, organizations, governments and universities are also mentioned, concluding that: a) R-Studio and Weka has greater power and flexibility in terms of its application, which can be used for a preliminary analysis of the predictive model of demand, emphasizing b) the use thereof for the handling and processing of larger databases for their storage capacity and; c) better management and analysis of R-Studio is mentioned as a complement to a predictive analysis.

Arias-Vargas (2017) mentions the use of standard deviation for the calculation of a safety inventory, in this case the forecast model is identified as a simple average that has the effect of increasing the investment in safety inventories. To avoid this, it is proposed to use the standard deviation of the forecast errors associated with the forecast model to be applied, concluding that: b) in conjunction with the use of enterprise software (ERP or others) as a complement to the company's inventory assurance model; c) minimizing the impact of data variability on the security inventory, this to achieve the required service levels with minimal security inventories.

2. Materials and method

According to Herrera *et al.* (2010), descriptive research is applied as the first level for the implementation of this research paper, which served to examine the characteristics under study, define the subject and formulate the hypothesis, in addition to selecting the data collection technique and identify reliable sources of consultation, establishing the causes and effects of the object of study.

According to Romero (2012), correlational research is applied where the degree of relationship of the variables, statistical estimation model (independent variable) and profitability (dependent variable) is established, determining the incidence of the independent variable in solving the problem. Finally, applied research is used, which brings theoretical knowledge to the practical and in turn to the application, in order to improve the demand estimates of the advised entrepreneurs within the program "Productive Inclusion" led by the Ministry of Industries and Productivity (MIPRO) of Ecuador.

3. Population and sample

3.1. Population

The population consists of 702 national entrepreneurs composed of 36 variables, knowing exactly the number of elements comprising the population and determining the same of finite character.

3.2. Sample

In this investigation, due to the nature of the subject-matter, the type of random probabilistic sampling stratified is applied with proportional fixation, since the idea is to highlight the subgroups of entrepreneurships in the different productive sectors, observing the relationships between them and decreasing their variability, while maintaining proportionality to the size of the population.

Sample size: $n = \frac{\sum_{i=1}^{1} N_i P_i Q_i}{NE + \frac{1}{N}\sum_{i=1}^{1} N_i P_i Q_i}$

Size of each stratum: $n_i = n\left[\frac{N_i}{\sum_{i=1}^{1} N_i}\right] = n\left(\frac{N_i}{N}\right) = n(W_i)$

Estimate value: $E = \frac{d^2}{Z_{1-\alpha/_2}2}$

Where:

N=702

Retos, 9(18), 2019

Z = 95% confidence level equivalent to 1.96 Z value
E = ?
n = 248
p = 0.5
q = 0.5
d^2= 0.05^2
$Z_{1-\alpha/2}$ 2 = 1.96^2

The sample was calculated with 95% confidence level and a standard deviation 0.5, for a population of 702 entrepreneurs from the "Productive Inclusion" program carried out by the Ministry of Industries and Productivity (see Table 1).

Table 1. Stratified Sampling with Proportional Fixation

Group	Ni	Pi	Qi	Pi*Qi	N*P*Q	Wi	ni
Trade of goods	283	0.5	0.5	0.25	70.75	0.4031339	100
Trade of services	136	0.5	0.5	0.25	34	0.19373219	48
Manufacture	182	0.5	0.5	0.25	45.50	0.25925926	64
Agriculture	101	0.5	0.5	0.25	25.25	0.14387464	36
Total	702				176	1	248

Source: Own elaboration from the data obtained by Setedis-Mipro

According to López (2014), for a sample to be representative, it must contain at least 30% of all cases. In this sense, it is clarified that out of 702 entrepreneurships comprising the population through the application of the statistical stratified sampling method, 248 observations are obtained as a sample calculation, fully representative of the population with more than 30% as established by the above author (*op. cit*), therefore the calculation of the sample for the present study is evidenced.

4. Analysis and results

This study presents information on 702 companies registered in the database [Data_Emprendimientos_Mipro_xlsx] (data purified), cumulative from 2013 to 2017, classified in 4 productive sectors: Trade of Goods, Trade of Services, Manufacturing and Agriculture (see Tables 2 and 3).

Table 2. Distribution by Province [Enterprise]

No.	Provinces	Frequency	%
1	Azuay	18	2.6%
2	Bolívar	31	4.4%
3	Cañar	17	2.4%
4	Carchi	25	3.6%
5	Chimborazo	34	4.8%

p-ISSN: 1390-6291; e-ISSN: 1390-8618

No.	Provinces	Frequency	%
6	Cotopaxi	25	3.6%
7	El Oro	36	5.1%
8	Esmeraldas	27	3.8%
9	Galápagos	1	0.1%
10	Guayas	42	6%
11	Imbabura	28	4%
12	Loja	27	3.8%
13	Los Ríos	33	4.7%
14	Manabí	103	14.7%
15	Morona Santiago	13	1.9%
16	Napo	33	4.7%
17	Orellana	21	3%
18	Pastaza	12	1.7%
19	Pichincha	68	9.7%
20	Santa Elena	23	3.3%
21	Santo Domingo	27	3.8%
22	Sucumbíos	19	2.7%
23	Tungurahua	23	3.3%
24	Zamora Chinchipe	16	2.3%
Total		702	100%

Source: Own elaboration from the data obtained at Setedis-Mipro

According to Table 2, the largest number of companies implemented are in the province of Manabí, with 14.7%, corresponding to the implementation of 103 and a negligible value in the Galapagos province with 0.1%. It can also be seen that the provinces with more entrepreneurships are the provinces of Pichincha (capital Quito) and Guayas (capital Guayaqui) with 9.7% and 6%, respectively, being the two provinces with the highest density of population of Ecuador.

Table 3. Number of enterprises by Proportional Afixation

No.	Productive areas	Frequency	%
1	Trade of goods	100	40%
2	Trade of services	48	19%
3	Manufacture	64	26%
4	Agriculture	36	14%
	Total	248	100%

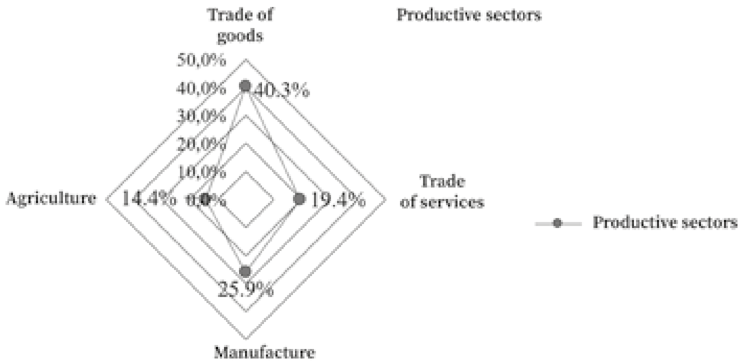
Source: Own elaboration from the data obtained at Setedis-Mipro

Figure 1 shows a percentage of 40.3% of entrepreneurs advised in the goods trade sector, followed by the manufacturing sector with 25.9%, representing more than 50% of the variable in question, while the manufacture sector accounts for

Retos, 9(18), 2019

19.4%, and the agricultural sector covers 14.4% at the national level. This shows that entrepreneurs mostly choose businesses with a commercial nature.

Figure 1. Percentage of entrepreneurships per Province



Source: Own elaboration from the data obtained at Setedis-Mipro

Then the analysis on the variables is carried out; error levels of the forecast and profitability of the entrepreneurships (% of utility or profit margin and % error as incident variable).

Table 4. General Error Matrix on Real Value

Factor	Productive areas					
e_t	C.B	C.S	M	A	$\Sigma\ e_t(+)\ (-)$	%
e_t (+)	74	40	47	30	191	77%
e_t (-)	26	8	17	6	57	23%
TOTAL	100	48	64	36	248	100%

Source: Own elaboration from the data obtained at Setedis-Mipro

- C.B: Trade of goods
- C.S: Trade of services
- M: Manufacture
- A: Agriculture

As observed in Table 4, the percentage of underestimators relative to the real value is 77%, noting that the projections made in the advised entrepreneurs were lower than the current value, while the percentage of overestimations is 23%, i.e., there were entrepreneurships that exceeded the real value achieved.

Table 5. General matrix of the percentage of statistical error on estimates

Factor	Productive areas					
e_t	C.B	C.S	M	A	Σe_t <;> 10%	%
$e_t < 10\%$	5	2	3	2	12	5%

Factor	Productive areas				
$e_t > 10\%$	95	46	61	34	236	95%
TOTAL	100	48	64	36	248	100%

Source: Error type table by production sectors

- C.B: Trade of goods
- C.S: Trade of services
- M: Manufacture
- A: Agriculture

According to Table 5, 95% of entrepreneurships on 248 observations exceed 10% of the margin of error in their predictions. Only 5% of forecasts are within the statistically acceptable margin of error. According to Lamas (2016), the statistical error for any estimation study is between 0-10% of the maximum margin of error, this depending on the appropriate confidence level; however, it will be up to the researcher to define the margin of error admitted, taking into account the type of estimate and the factors affecting them.

3.1. Analysis of the forecast error by productive sectors

The analysis of $e\% = \left(\frac{y_t - \hat{y}_t}{y_t}\right) * 100$ (Hanke, 2015).

Where:
e_t : forecast error
Y_t : real value
$\hat{Y}_t$: forecast value

Table 6. Analysis Descriptive Error (%) Goods Trade Sector

Statistics	Values
N.-Valids	100
Lost	0
Mean	61.72
Standard error	2.831
Mean	68
Moda	97
Standard deviation	28.312
Variance	801.577
Asymmetry	-.552
Standard asymmetry error	.241
Kurtosis	-.885
Standard Kurtosis error	.478
Range	94
Minimum	3

Retos, 9(18), 2019

Statistics	Values
Maximum	97
Percentiles .25	37.25
.50	68.00
.75	84.75

Source: Own elaboration from the data obtained at Setedis-Mipro

According to the descriptive statistics presented in Table 6, the average error over 100 observations is 61.72%, with a standard deviation of 28.312%. In addition, it can be seen that half of the entrepreneurships had an error rate in their forecasts of less than 68%, while 97% was the most common error rate on a 1-100 percent scale, the difference between the minimum and maximum error forecast rate was 94%, and 50 percent of the entrepreneurships had an error in their forecasts between 37.25% and 88.75%. The distribution is asymmetrical negative, i.e., the largest amount of data is grouped to the right and has kurtosis, which means that there is very little grouping of data in the central region, being able to identify that the data has great variability or dispersion relative to its mean.

Table 7. Descriptive Error Analysis (%) Trade of Service

Statistics	Values
N.-Valids	48
Lost	0
Mean	64.13
Standard error	3.293
Mean	72.50
Moda	79.00
Standard deviation	22.813
Variance	520.452
Asymmetry	-1.004
Standard asymmetry error	.343
Kurtosis	.704
Standard Kurtosis error	.674
Range	96
Minimum	0.3
Maximum	96
Percentiles .25	48.50
.50	72.50
.75	79.00

Source: Own elaboration from the data obtained at Setedis-Mipro

As can be seen in Table 7, the average error over 48 observations is 64.13 percent, with a standard deviation of 22.813%. In addition, it can be seen that half of entrepreneurships had an error rate in their forecasts of less than 72.50%. 79 was the most common error rate on a 1-100 percent scale; while the difference between the minimum and maximum error rate of the forecast was 96 percent, and 50% of the entrepreneurships had an error in their forecasts between 48.50% and 79%. The distribution is asymmetrical negative, i.e., the largest amount of data is grouped to the right and has kurtosis, therefore there is more data in the central region, identifying that the data are approximately 64.13% of forecast error.

Table 8. Descriptive Error Analysis (%) Agricultural Sector

Statistics	Values
N.-Valids	36
Lost	0
Mean	57.94
Standard error	4.482
Mean	69
Moda	83
Standard deviation	26.891
Variance	723.140
Asymmetry	-.512
Standard asymmetry error	.393
Kurtosis	-1.134
Standard Kurtosis error	.768
Range	87
Minimum	5
Maximum	92
Percentiles .25	36
.50	69
.75	81

Source: Own elaboration from the data obtained at Setedis-Mipro

According to the descriptive analysis data in Table 8, the average error over 36 observations is 57.94% with a standard deviation of 26.89. In addition, it can be seen that half of the entrepreneurships had an error rate in their forecasts of less than 69%. 83 was the most common error rate on a 1-100 percent scale, the difference between the minimum and maximum forecast error percentage was 87 percent, and 50% of the entrepreneurships had an error in their forecasts between 36% and 81%. The distribution is asymmetrical negative, i.e., the largest amount of data is grouped to the right and has kurtosis, therefore it can be shown that there is very little data around 57.94% of forecast error.

Table 9. Analysis Descriptive Error (%) Manufacturing Sector

Statistics	Values
N.-Valids	64
Lost	0
Mean	71.19
Standard error	3.320
Mean	78.00
Moda	97
Standard deviation	26.556
Variance	705.234
Asymmetry	-.903
Standard asymmetry error	.299
Kurtosis	-.099
Standard Kurtosis error	.590
Range	94
Minimum	4
Maximum	98
Percentiles .25	51.50
.50	78
.75	97

Source: Own elaboration from the data obtained at Setedis-Mipro

According to the sections in Table 9, the average error over 64 observations is 71.19%, with a standard deviation of 26.55%. In addition, it can be seen that half of the entrepreneurships had an error rate in their forecasts of less than 78%. 97 was the most common error rate on a scale of 1-100 percent. The difference between the minimum and maximum error rate of the forecast was 94%, and 50% of the entrepreneurships had an error in their forecasts between 51.50% and 97%. The distribution is asymmetrical negative, i.e., the largest amount of data is grouped to the right and has kurtosis, consequently there is very little grouping of data or a lot of variability around the mean 71.19%.

3.2. *Strata profitability analysis*

For the profitability analysis, the % U or profit margin is taken into account as a composite variable $\% U = \frac{UN}{VT}$ which is processed and represented in the following analysis. According to Daza-Izquierdo (2016), profitability is a condition or ability of organizations to generate or earn income from an investment, i.e., it is the culmination of a result of any economic activity, considering that profitability is the interpretation of profits and surplus in percentage or absolute terms according to certain indicators. In this case, the profitability condition is established based on percentage profit or profit margin.

Table 10. Numerical and Percentage Representation of Utility

Factor	Productive areas					
Utility	C.B	C.S	M	A	Σ Utility	%
U (-)	22	8	23	14	67	27%
U (+)	78	40	41	22	181	73%
Total	100	48	64	36	248	100%

Source: Own elaboration from the data obtained at Setedis-Mipro

UN = net utility
VT = Total sales
Unidades = Percentual

As evidenced in Table 10, 73% of advised entrepreneurships make a profit, while 27% generate loss. In addition, it is clear that the sectors where the most entrepreneurships are concentrated are Trade of Goods and Manufacturing.

According to López (2016), the different ways of "making a company" make profit margins have a great diversity and disparity between business units and even between productive sectors. The author (*op. cit.*) mentions that an acceptable or good profit margin is the one that exceeds 20%, indicating that commonly industries with competitive companies obtain small profit margins, so to be profitable they generate large volumes of sales. In contrast, small innovative businesses generally obtain higher profit margins, this because sales volumes increase by the small number of competitors. Increased profit margins are also considered for the application of economies of scale.

Table 11. Measure of the Current Profitability Index Model

Productive areas	Profit < 20%	Profit > 20%	Profit (-) loss	Total
C.B	21	57	22	100
C.S	4	36	8	48
M.	19	22	23	64
A.	4	18	14	36
Total Numerical	48	133	67	248
Total Percentual	19%	54%	27%	100%

Source: Own elaboration from the data obtained at Setedis-Mipro

As evidenced in Table 11, 54% of advised entrepreneurships make a profit greater than 20% considered acceptable, while 27% generate loss, and 19% generate a profit of less than 20%, considered to be insignificant.

3.2. *Evaluation of the current model vs. the proposed model*

According to Render *et al.*, (2015), in order to evaluate an estimate model used, the following elements are considered that are contrasted with those of the current model.

Table 12. Weighting Elements of the Estimation Model «Holmes Method»

Com	C1	C2	C3	C4	C5	C6	Total	Order	Proportion
C1	-	1	1	1	1	1	5	1	33.33%
C2	0	-	0.50	0.75	0.75	0.75	2.75	2	18.33%
C3	0	0.50	-	0.50	0.50	0.50	2	3	13.33%
C4	0	0.25	0.50	-	0.75	0.50	2	3	13.33%
C5	0	0.25	0.50	0.25	-	0.75	1.75	4	11.67%
C6	0	0.25	0.50	0.50	0.25	-	1.50	2	10%

Source: Own elaboration from the data obtained at Setedis-Mipro

1: Very important
0.75: Significantly important
0.50: Important
0.25: Significantly less important
0: Unimportant

C1: Obtaining input data
C2: Development of a solution
C3: Solution test
C4: Result Analysis
C5: Sensitivity Analysis

Table 13. Current Model Assessment

No.	Components	Description	Orden	Valoración
1	Getting Input Data	Statistical procedures	1	-
2	Solution Development	Model Manipulation	2	18%
3	Solution Test	Statistical tests	3	-
4	Result Analysis	Determination of solution implications	3	13%
5	Sensitivity Analysis	Sensitivity Tests	4	12%
6	Implementation of the result	Sensitivity Solution	2	10%
		Total	-	53%

Source: Own elaboration from the data obtained at Setedis-Mipro

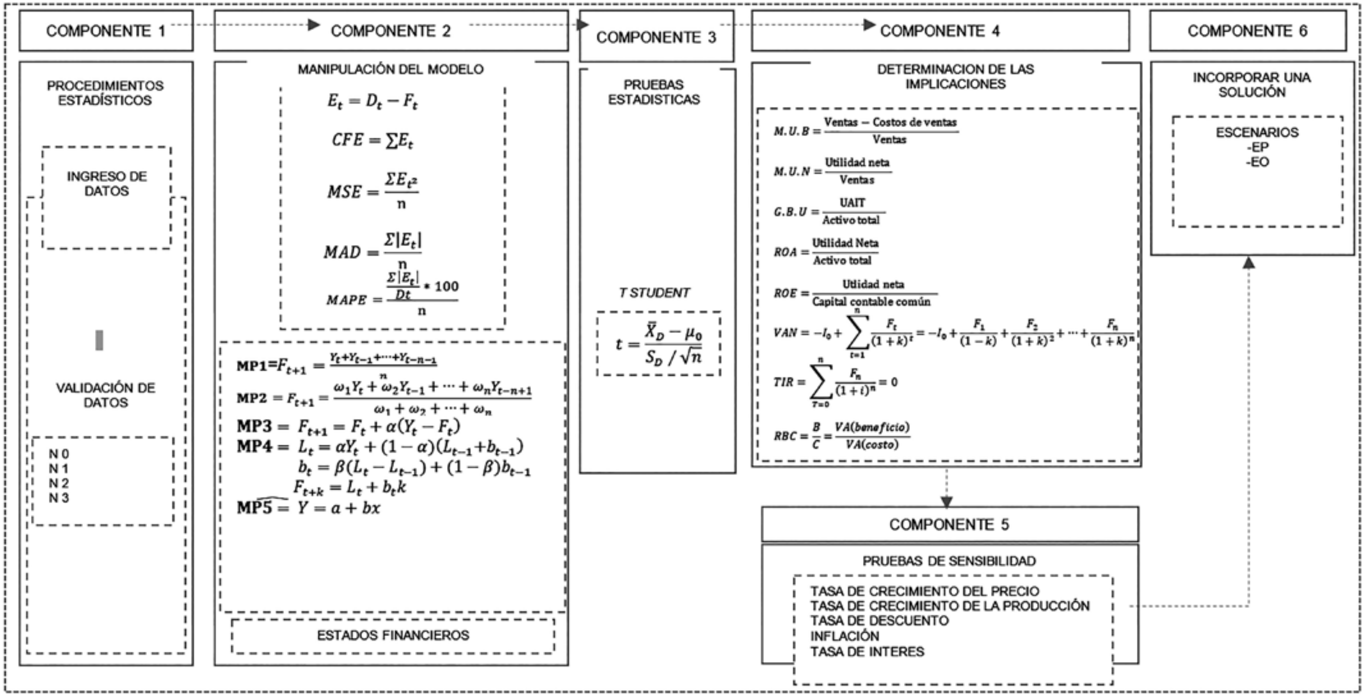
As noted in Table 13, the effectiveness of the current model is 53%, considering for component C1 a probability of 0.5 failure and 0.5 success in the procedure. This by assuming that there are problems of manipulation and incorrect data entry, however, for MEED-JCES-2018, a procedure is established for irrigation management that mitigates this type of problems.

3.3. *Methodology of the proposed operating model "MEED-JCES-2018"*

According to Render *et al.*, (2015, pp. 31-34) models "must be fully functional, easy to solve and understand, realistic and modifiable, as well as feasible in obtaining requirement of input data". The authors further emphasize that the development of the model must be thorough in order for it to be solved and more similar to the reality of prediction.

The proposed model is hereinafter referred to as 'MEED-JCES-2018'. This model will cover the approaches and inputs of different authors, and will be more strongly evidenced by quantitative methods of forecasting, specifically those of time series. In addition, financial and statistical parameters are presented that will allow accurate measurement of the forecasts and the level of profitability (see Figure 2).

Figure 2. Design of the model proposed MEED-JCES-2018



Source: Own elaboration

1. Input-data: for the data entry the proposed methodology is established according to validation levels, after such validation the data enters the «MEED-JCES-2018».
2. Model manipulation: the data is processed, the error that best fits that series is established, and the method that has the least error present is applied (for the identification of the least error the MAPE is taken into consideration by the ease of interpretation).
3. Statistical test: statistical data provided by the 'MEED-JCES-2018' on the application of the different forecasting methods is obtained to be compared with the data produced by IBM SPSS or Minitab software (in this case the use of other type of software proposed by the analyst is taken into consideration). The purpose of this comparison is to identify how effective the model is.
4. Determination of implications: an analysis of the profitability indicators is carried out and it is determined how profitable the business is based on the data obtained.
5. Sensitivity test: The sensitivity test includes manipulation of price growth rates, production, inflation, discount rate.
6. Provide the solution: in the incorporation of the solution it is recommended to establish at least 2 scenarios (pessimistic - optimistic), based on the sensitivity of the variables.

Finally, it is suggested for the statistical prediction phase to contrast the results with the SPSS, R-Studio, Minitab, and Stat-Graphics.

3.5. Contrast of the current model vs the proposed model

The following, as an interpretation of the final results, is the analysis on the contrast of the elements before and after the application of the "MEED-JCES-2018".

Table 14. Contrast of Model Application % U

Statistics	Before the implementation of the MEED	After the implementation of the MEED
N.-Valids	248	248
Lost	0	0
Media	32.1008	46.8226
Average	28.8000	44.0000
Moda	64.00	74.00
Standard deviation	21.31471	19.26968
Variance	454.317	371.321
Asymmetry	.501	.878
Standard asymmetry error	.155	.155
Kurtosis	-.499	.608
Standard kurtosis error	.308	.308
Range	97.00	97.00

p-ISSN: 1390-6291; e-ISSN: 1390-8618

Statistics		Before the implementation of the MEED	After the implementation of the MEED
Minimum		.00	20.00
Maximum		97.00	117.00
Percentiles	.25	16.0000	31.0000
	.75	48.9500	59.0000

Source: Own elaboration from the data obtained at Setedis-Mipro

3.6. Verification of the hypothesis

Step 1.-Hypohesis scenario

Ho: The variable and e_t% (relative error) does not significantly affect the profitability (% U of or profit margin) of the companies ($\tilde{x}_1 = \tilde{x}_2$)

H1: La variable e_t% (error relativo) sí incide significativamente en la rentabilidad (% U o margen de utilidad) de los emprendimientos ($\tilde{x}_1 \neq \tilde{x}_2$)

Step 2.-Levels of significance

Confidence level: 95%, α = 100% - 95% = 5% = 0.05.
Error type 1. - Chance of rejection of Ho when true.
Error type 2. - Probability of accepting Ho when false

Step 3.-Test Statement

If p < = 0.05 Ho is rejected
If p> = 0.05 Ho is accepted

Step 4.-Decision Rule

If p < = 0.05 is rejected Ho and H1 is accepted.

The ritual of statistical significance is carried out for the selection of the hypothesis test. The Kolmogorov-Smirnov test is applied for a sample on the variable difference (error of the forecast before- after the application of the MEED) and on the variable difference (% U current model - % U proposed model), in order to check if the variables study are distributed or belong to a normal distribution

Table 15. Kolmogorov-Smirnov test for a sample

Factors	Descriptive	Difference e_t%	Difference %U
N		248	248
Normal parameters[a,b]	Media	37.8560	-14.7218
	Desv.	21.62097	3.52447
Maximum difference	Absolute	.202	.219

Factors	Descriptive	Difference e_t%	Difference %U
Extremes	Positive	.153	.219
	Negative	-.202	.206
Test statistic		.202	.219
Asynical sig. (bilateral)		.000[c]	.000[c]

Source: Own elaboration from the data obtained at Setedis-Mipro

Ho: Hypothesis of homogeneity
H1: of differences

Table 15 shows a p-value of 0.00 < 0.05, which allows to reject the Ho and accept the H1, and confirms that there is no homogeneity, i.e., the data distribution of the variables under study is not equal in its structure or in its form – does not belong to a normal distribution, thus the Wilcoxon range test will be applied.

Below, in Table 16, the hypothesis subject to verification is presented with the Wilcoxon range test for reacted samples. This was used to compare two (medium) range measurements to determine that the difference is not because of random.

Table 16. Wilcoxon Rank Test

Descriptive	Difference	N	Average range	Sum of Ranges
% Proposed Model Error- % Current Model Error	Negative Ranges Positive Ranges Even Total	237[a] 11b 0c 248	128.39 40.64	30429.00 447.00
% Utility of the Proposed Model- % Utility of The Current Model	Negative Ranges Positive Ranges Even Total	0a 248b 0c 248	0.00 124.50	00.00 30876.00

Source: Own elaboration from the data obtained at Setedis-Mipro

Table 17. Test Statistics

Description	Z	Sig. Asymptotic (bilateral)
% Error with applicability of MEED % Error before the applicability of MEED	-13.377[b]	.000
% Utility of the proposed model- % Utility of the current model	'13.795[b]	.000

Source: Own elaboration from the data obtained at Setedis-Mipro

Step 5.-Decision-making

As can be seen in Table 17, the following is 0.00 < 0.05, which shows the existence of differences between the two assessments on the same group of entrepreneurships, the Z value is higher than the confidence level at 95%=1.96, i.e., the calculated Z-value of -13,377 b and 13,795 b gets in the rejection zone to two distribution queues, so it can be corroborated that there is a significant change in the % of forecast error and the profit percentage after the application of the MEED, therefore, Ho is rejected and H1 is accepted.

4. Discussion and conclusions

The results obtained in the forecasts with the proposed model provide more and more accurate predictions. These come from a disaggregated model based on measures on the medium-ECM quadratic error and medium-PEAM absolute error, depending largely on the balance between the degree of uncertainty and heterogeneity of the data (López *et al.*, 2017).

According to Render *et al.* (2015, pp.31-34) "models must be fully functional, easy to solve and understand, realistic and modifiable, as well as feasible in obtaining input data requirements". The authors (*op. cit.*) emphasize that the development of the model must be thorough in order for it to be solved and be similar to the reality of prediction. After examining the works and publications of several authors, the statistical estimation model of demand called "MEED-JCES-2018" was developed, which establishes primary factors for optimal prediction and a structure for practical management, starting with an information system that analyzes the trend of the series to forecast, the automatic application of time series methods such as: The simple moving average method, weighted moving average, exponential smoothing, double exponential smoothing and linear regression, which together with financial and control statistical indicators help to improve estimates for detecting the presence of mistakes and take corrective action and make better decisions.

The proposal of a model for the calculation of estimates contributes to companies in reducing oversupply, minimizing the costs of materials, production and finished products. The application of a model involves the evaluation and comparison of different quantitative methods, with the aim of obtaining greater precision in terms of its estimation, being Winter Method the most used method (Garduño-García, 2011).

The investigated models clearly explain their structure. In the particular case the model called SysPPAc consists of: an information system, trend analysis, statistical estimation methods, method selection indicators and information generation; this model is clearly functional as it migrates and classifies historical data, applies mathematical estimation models based on time series, average-mobile and smoothing-exponential, selects a number of previous periods, the adjustment factor for the valuation of any pattern and/or trend of the series to be estimated, validates the model, generates critical information reliably and automatically (Montañez-Muñoz, 2010).

Taking into account the trend component, the errors of the estimates and historical autocorrelation, it is advisable to work on a fully and reduced differentiated series in its variance through the application of the natural logarithm - delayed series in a period-, this is reflected in most forecasts studies and estimate models (Peña Figueroa & Paredes Mora, 2016).

The use of statistical and probability tools is established for the analysis of the behavior of the , , the range, the 90 percentile and the 10 percentile - both define the probability of occurrence of 80%-; based on this analysis and the use of forecast methods time series are created and performance parameters are set, the method that best models the behavior of the series is defined through error analysis. Finally, it is evident that the predicted values differ insignificantly from the real ones, i.e., there is a good approximation for predicting future values, concluding that the careful analysis of statisticians contributes greatly to the definition or selection of the most suitable model and consequently the most optimal approach to a real value (Silva-Romero, 2013).

It is recommended to update the model with the inclusion of new methods, techniques and statistical tools for sampling, processing, analysis and data collection, as well as for the contrast of hypotheses. In the same way, it is recommended to use control and monitoring techniques, the inclusion of statistical and financial indicators that guarantee the quality of the information generated by the model. In addition, it is suggested to maintain a good quality database that serves for further analysis, understood by good data quality: its availability, usability, reliability, relevance and quality in its presentation. In addition, to carry out a periodic evaluation of the "MEED-JCES-2018" in order to improve it through the insertion of new tools or computer applications (statistical software) for the prediction process, these improvements should be based logically, technically and scientifically.

References

Alvarado, J. L., & Pinos, O. A. (2017). Estimación de ingresos de la población ecuatoriana. Una propuesta desde la regresión cuantílica. *Cuestiones económicas*, *27*(2), 175-177.

Arias-Vargas, M. (2017). Impacto en el inventario de seguridad por la utilización de la desviación estándar de los errores de pronóstico. *Tecnología en Marcha*, *30*(1), 49-54. https://doi.org/10.18845/tm.v30i1.3064

Boada, A. J. (2017). Modelo lineal dinámico bayesiano como procedimiento de actualización automática para modelos estadísticos predictivos. *Dimensión Empresarial*, *15*(1), 33-52. http://dx.doi.org/10.15665/rde.v15i1.547

Boada, A. J. (marzo de 2017). Sistema de proyección de la demanda. Caso práctico de predicción automatizada en empresas de venta por catálogo. *Perspectiva Empresarial*, *4*(1), 23-41. https://doi.org/10.16967/rpe.v4n1a2

Cadena Lozano, J. B., Ariza Garzón, M. J., & Palomo Zurdo, R. J. (2017). La gestión de pronósticos en las decisiones empresariales: un análisis empírico. *Espacios*, *39*(13), 1-16.

Contreras Juárez, A., Atziry Zúñiga, C., Martínez Flores, J. L., & Sánchez Partida, D. (2016). Análisis de series de tiempo en el pronóstico de la demanda de almacenamiento de productos perecederos. *Estudios Gerenciales*, *32*(141), 387-396. https://doi.org/10.1016/j.estger.2016.11.002

Daza Izquierdo, J. (2016). Crecimiento y rentabilidad empresarial en el sector industrial brasileño. *Contaduría y Administración*, *61*(2), 266-282. https://doi.org/10.1016/j.cya.2015.12.001

Delgadillo Ruiz, O., Ramírez Moreno, P. P., Leos Rodríguez, J. A., Salas González, J. M., & Valdez Cepeda, R. D. (2016). Pronósticos y series de tiempo de rendimientos de granos básicos en México. *Acta Universitaria*, *26*(3), 23-32. http://dx.doi.org/10.15174/au.2016.882

Espino Timón, C. (2017). *Análisis predictivo: técnicas y modelos utilizados y aplicaciones del mismo - herramientas Open Source que permiten su uso* (Tesis de pregrado). Universitat Oberta de Catalunya, España. Recuperado de https://bit.ly/31pyZdt

García Guerrero, V. M. (2014). Pronóstico estocástico de la población mexicana utilizando modelos de datos funcionales. *Revista Internacional de Estadística y Geografía*, *5*(3), 18-21.

Garduño García, G. (2011). *Metodología para calcular el pronóstico de ventas y una medición de su precisión en una empresa farmacéutica: Caso de estudio* (Tesis de pregrado). Instituto Politécnico Nacional, México. Recuperado de https://bit.ly/2MPnubk

Hanke, J. E. (2015). *Pronósticos para negocios* (novena ed.) México: Pearson Educación.

Herrera, L., Medina, A., & Naranjo, G. (2010). *Tutoría de la Investigación Científica (Cuarta Edición ed.)*. Quito, Ecuador: Gráficas Corona Quito.

Lamas, C. A. (2016). Los Márgenes de error en las encuestas electorales. *Revista Investigación y Marketing* (AEDEMO), (132), 1-9.

Lao-León, Y. O., Rivas-Méndez, A., Pérez-Pravia, M. C., & Marrero Delgado, F. (2017). Procedimiento para el pronóstico de la demanda mediante redes neuronales artificiales. *Ciencias Holguín*, *23*(1), 1-18.

López, F. (2016). La Cuenta de Resultados. Cómo analizarla y gestionarla. Catalunya, España: *Libros de Cabecera*.

López, P. L. (2014). Población Muestra y Muestreo. *Punto Cero*, *9*(8), 69-74.

M. López, A., A. Flores, M., & I. Sánchez, J. (mayo de 2017). Modelos de series temporales aplicados a la predicción del tráfico aeroportuario español de pasajeros: Un enfoque agregado y desagregado. *Estudios de Economía Aplicada*, *35*(2), 395-418.

Montañez Muñoz, E. J. (19 de 11 de 2010). Diseño y desarrollo de un modelo de pronóstico para planeación en el área académica de la UNASAM. *Revista de investigación Aporte Santiaguino*, *3*(2), 266-271. http://dx.doi.org/10.32911/as.2010.v3.n2.448

Moreno Arenas, R. (2016). *Selección de un método de pronóstico de la Demanda para la estandarización de compras de Empaque y Embalaje*. Universidad Militar Nueva Granada, Colombia. Recuperado de https://bit.ly/2YTJDYb

Moscoso Escobar, J., & Botero Botero, S. (24 de mayo de 2013). Métodos de Valoración de nuevos Emprendimientos. *Semestre Económico*, *16*(33), 237-262. https://doi.org/10.22395/seec.v16n33a9

Peña Figueroa, I., & Paredes Mora, G. (2016). *Predicción de la demanda del volumen de madera central en el mercado de Chile para Aserraderos Arauco S.A.* Universidad Católica de la Santísima Concepción, Chile. https://doi.org/10.13140/RG.2.2.21899.90404

Render, B., Stair Jr., R. M., & Hanna, M. (2015). *Métodos cuantitativos para los negocios*. México: Pearson Educación.

Reyes Sánchez, C. (2017). Marco teórico y empírico para la estimación de sistemas de demanda. *Revista Iberoamericana de Producción Académica y Gestión Educativa*, *4*(7), 1-5.

Romero, L. (2012). *Metodología de la investigación en Ciencias Sociales*. México: Universidad Juárez Autónoma de Tabasco.

Sánchez, R., & Gavira Durón, N. (2016). Pronóstico de la demanda de visitantes internacionales: el caso de México. *Journal of Research in Accounting and Management Science*, *12*(23), 29-54. Recuperado de https://bit.ly/31r6pIz

Silva Romero, M. A. (mayo de 2013). Modelo de pronóstico para la estimación de la utilización y confiabilidad de equipos dinámicos. Caso: Equipo de compresión de la RPMNE. *Ingeniería Petrolera*, *53*(5), 287-297. Recuperado de https://bit.ly/2OVTahY

Toca Torres, C. (11 de 10 de 2010). Consideraciones para la Formación en Emprendimiento: Explorando nuevos ámbitos y posibilidades. *Estudios Gerenciales*, *26*(117), 41-60. https://doi.org/10.1016/S0123-5923(10)70133-9

Valencia Cruzaty, L. (17 de Julio de 2017). Emprendimiento en Ecuador. Estudio de Caso: Provincia de Santa Elena. *Revista Killkana Sociales*, *1*(2), 27-32.

Vergara Schmalbach, J. C., Quesada Ibargüen, V. M., & Maza Ávila, F. J. (2017). Efecto de los aspectos demográficos en la valoración de la calidad del del servicio. *Revista U.D.C.A Actualidad & Divulgación Científica*, *20*(2), 457-467. https://doi.org/10.31910/rudca.v20.n2.2017.401

Retos, 9(18), 2019
Revista de Ciencias de la Administración y Economía | ISSN impreso: 1390-6291; ISSN electrónico: 1390-8618

www.retos.ups.edu.ec

Subjective well-being based on creativity and the perception of happiness

El bienestar subjetivo a partir de la creatividad y la percepción de felicidad

Dr. Eduardo Ahumada-Tello is a professor and researcher at Universidad Autónoma de Baja California (México) (eahumada@uabc.edu.mx) (https://orcid.org/0000-0003-1698-5126)

Abstract

In this paper the relationship that exists between the concepts of «happiness» and «creativity» with «subjective wellbeing» is analyzed. The importance of these elements is reviewed to confirm the positive relationship that is supposed to exist between them and in this way to propose organizational development strategies. The goals to achieve are to find the correlation between the variables in the local environment. To this end, a questionnaire is applied, and 249 responses are obtained, this instrument includes questions for each of the variables under study and have been obtained from a sample of a population of university students and graduates former students of management degrees in the city of Tijuana, BC, Mexico. Results confirm that the variables «happiness» and «subjective wellbeing» and the variables «creativity» and «subjective wellbeing» have a high mutual relationship based on the results in Pearson's correlation analysis, in the analysis of variance and in the regression equation model. It reaches to the conclusion of the importance of applied strategies for the development of the human element in organizations based on the implementation of actions that promote creativity and increase perception of happiness to influence the development of subjective well-being in individuals and organizations from collaboration networks and organizational tools.

Resumen

El presente trabajo analiza la relación que existe entre los constructos de «felicidad» y «creatividad» con el «bienestar subjetivo». La importancia de estos elementos se revisa para confirmar la relación positiva que se asume, para de esta manera proponer estrategias de desarrollo organizacional. Los objetivos son encontrar la correlación entre las variables en el entorno local. Para ello se lleva a cabo la aplicación de un cuestionario que incluye ítems para cada una de las variables que conforman el estudio y se obtuvieron 249 respuestas, que son parte de la muestra de una población correspondiente a estudiantes universitarios y a egresados de carreras administrativas en la ciudad de Tijuana, B.C., México. Los resultados confirman que las variables «felicidad» y «bienestar subjetivo» y las variables «creatividad» y «bienestar subjetivo» presentan una alta correlación con resultados en análisis de correlación de Pearson, en el análisis de varianza y en el modelo de ecuación de regresión las variables. Se concluye la importancia de elaborar estrategias para el desarrollo del elemento humano en las organizaciones a partir de la implantación de acciones que impulsen la creatividad y la percepción de felicidad para que éstas influyan en el incremento del bienestar subjetivo en los individuos y en las organizaciones a partir de redes de colaboración y herramientas organizacionales.

Keywords | palabras clave

Subjective wellbeing, quality of life, creativity, perception, happiness, society, organizations, people.
Bienestar subjetivo, calidad de vida, creatividad, percepción, felicidad, sociedad, organizaciones, individuos.

Suggested citation: Ahumada-Tello, E. (2019). Subjective well-being based on creativity and the perception of happiness. *Retos Journal of Administration Sciences and Economics, 9*(18), 313-329. https://doi.org/ 10.17163/ret.n18.2019.09

Received: 06/01/19 | Reviewed: 07/14/19 | Approved: 08/11/19 | Published: 10/01/19

Retos, 9(18), 2019

1. Introduction

1.1. Background

Creativity and happiness are topics that are related when studying organizational cases, where the value of the company depends on human capital. This perspective addresses the need to counteract the objective dynamics based on the achievement of business and organizational goals, without taking into account the perception of employees in their sense of subjective well-being, personal achievements and sense of belonging to the organization (Goucha *et al.*, 2004).

Addressing the topic of creativity should start with the need to explain a reality about its development. Creativity can be considered to be an inherent part of the person from the beginning of his growth, so that it remains in the person as he grows, and then it is affected from the introduction of educational, social and cultural elements in the individual who regulates his ideas with those of the social group in which he belongs to and in which he must meet requirements for his insertion into the surrounding society in social, labor and economic aspects. This causes his creativity to be limited or focused primarily on those issues considered necessary in the society for his integration into the production systems that underpin the economic development. Explaining creativity has been part of researchers since the end of the last century. The association of "creativity" and "happiness" can be considered a natural duo, since one is identified as part of the other. In this sense, the construct of "subjective welfare" is addressed as a consequence of the implementation or development of the two variables of "happiness" and "creativity" (Chacón, 2005).

It has been mentioned in different studies how the presence of a perception depends on the conjugation of social and structural factors and in the expectation of understanding the phenomenon studied. Multiple factors can affect the development of subjective well-being. This is related to the contexts that determine whether the person is happy in their area of development or to the activities they perform creatively. In addition, the influence presented on optimism and self-perception has been studied as a consistent part of the development of subjective well-being, assuming that by raising both variables in the individual, then he is able to develop an inner state of greater improvement and positive interpersonal relationships (Moreno & Marrero, 2015).

Literature on "subjective well-being" includes happiness, satisfaction with life and positive affection, and it is found in different areas such as measurement, causal factors and theory (Huppert, Baylis & Keverne, 2012). Causal influences are known as demographic factors and influence health, social contact, activity and personality.

1.2. The problem

Creativity in the organization is part of a wide range of research in the medical and social sciences, as well as in other related scientific fields. Over the past four decades, psychologists, anthropologists and sociologists have focused more on this construct. It is possible to say that at this time more is known about creativity than at any time in history. This phenomenon is not only part of classical arts such as painting, music,

p-ISSN: 1390-6291; e-ISSN: 1390-8618

sculpture or literature, but it is also linked to activities such as science, theatre, business innovation and creativity in solving problems of an everyday nature.

In addition to examining psychological studies on creativity and exploring research on happiness and subjective well-being, it is important to review anthropologists' research on creativity in various cultures, both Western and non-Western; sociological research on situations, contexts and networks of creative activities, as well as cognitive neuroscientific studies of the brain. All this to investigate the questions that understand the perceived reality of the individual and to consider the social and cultural contexts of creativity, including the role of social collaboration and teamwork required for the creative process (Sawyer, 2012).

Happiness is a factor that has been identified as a relevant element in the study of subjective well-being and education among university students from a perspective oriented to the perception of professional ability of students and university graduates (Ahumada-Tello, 2017). However, there are authors who mention that happiness has specific characteristics that may not necessarily be part of subjective well-being (*v. gr.* Raibley, 2012).

1.3. Justification

"Creativity" and "happiness" have been studied in recent years. Both factors are a means of analyzing and evaluating the strategies and tools used to determine the perception of "subjective well-being" in individuals and social groups (Moccia, 2016). They are understood as an organizational and individual development tool that provides personal and professional benefits in the different environments in which the individual develops.

The acquisition of new skills, experiences, knowledge, and commitments, as well as taking on new challenges, goals, objectives and status, is what drives individuals to develop more and more to be better and to project progressively changes in the environment. This can be reflected perceptively in the performance and attitude that these changes arise (Ahumada-Tello, Ravina-Ripoll & Hernández de Velasco, 2018). These activities can be considered as part of a strategy for the development of subjective well-being.

From various perspectives, the perception of living a subjective well-being can focus on the context of the success that has been a goal to achieve by individuals. It is important to note that success is a scale of processes and levels proposed for a goal. If the individual uses tools that support him to develop knowledge and expand his network of people he knows, it is possible to assume that he will have a better performance and a greater degree of self-satisfaction, which can be equated to happiness and subjective well-being (Huppert *et al.*, 2012).

This study will determine the influence that happiness and creativity offer to the perception of incremental subjective well-being to improve the conditions that arise in the means that the individual develops personally and professionally. From this improvement in their perception and in their individual and social reality, it is expected that professional and personal results will be improved, so it is feasible that they favor and give an effective result in their personal, family, social situations, among others, covering with it the expectations of the environment (Helliwell & Putnam, 2004). This

p-ISSN: 1390-6291; e-ISSN: 1390-8618

can cause new studies in different contexts and new variables that explore subjective well-being by enriching knowledge through different research approaches.

1.4. Theoretical references

It is important to consider that the individual develops the sense of happiness from internal and external constructs. The science of happiness has been studied as a proven method for achieving subjective well-being, which can arise through what each individual does and how he does it in the different phases of his development, but influenced by the effect on others, becoming a stimulus for a good performance in personal or academic activities (Lyubomirsky, 2008).

Within these aspects, personal happiness can be related not only to the objective, but also to the environment in which individuals are developed, adding situations or subjective factors which can be personal, social, academic, work and professional, reason for which good behavior attitudes are reflected in the direct treatment among the individuals of the social group and may have the prospect of being positive or negative depending on the observer who analyses this environment.

Happiness is an important reality in the lives of individuals. There is even a position that the goal of life is to reach a point of happiness, which in a philosophical way gives meaning to existence. The lives of individuals would not make sense without the meaning of having a happy life. Man by nature seeks those challenges that complement him and give him goals and possible achievements to his life, even if these are subjective and subjected to the individual perception (Angner, 2010). The pursuit of happiness is an important goal for many individuals and organizations. However, there is little scientific research on the approach to obtaining and increasing happiness, making it also sustainable and with permanent economic benefits (Easterlin, 2004), i.e., that perception is maintained from internal and external factors (Baumeister, Vohs, Aaker & Garbinsky, 2013).

Despite pessimistic determinism and the hedonic adaptation of happiness, there are emerging sources of optimism regarding permanent and productive happiness (Oswald, Proto, & Sgroi, 2015). Some authors indicate the existence of factors that allow this type of happiness to be sustained: a) a genetic determination for happiness; b) factors external to the individual and; c) activities and practices relevant to the individual happiness. This last element or factor is the one that the individual can control and boost, reason for which sustainability efforts should focus on the latter factor (Lyubomksky, Sheldon & Schkade, 2005).

Creativity is a basic characteristic of the human being. It reflects the experiences and knowledge of the individual (Ferrando, Prieto, Ferrándiz & Sánchez, 2005). There is an increase of studies in relation to creativity due to its significant role in multiple fields of science, art, education and organizations (Pascale, 2005). Creativity has emerged models and theories that seek to capture its complexity and multifaceted nature; among them, Mihaly Csikszentmihalyi's system model, which appears as a major reference in the academia and proposes an important run-up to traditional postures in psychology, which focuses on the study of creativity from the person's perspective to integrate aspects of culture, society and the individual into a holistic model (Pascale, 2005). An example of the application of social knowledge for the development of creativity are studies on open innovation (Ooms, Bell & Kok, 2015).

This one is related to intelligence. The relationship between creativity and intelligence is a frequent topic of research and debate in the Social Sciences. In the case of Sternberg's work, definitions of creativity and intelligence are examined as well as how they can be related. The model developed from his research consists of five possible relationships: a) creativity as a subset of intelligence; b) intelligence as a subset of creativity; c) creativity and intelligence as overlapping sets; d) creativity and intelligence as coincidental sets; and e) creativity and intelligence as disjointed sets. In this sense, Sternberg addresses the prospect that creativity and intelligence must consider a mutual relationship that shows coexistence and dependence, demonstrating that one cannot exist without the other (Plucker, Esping, Kaufman & Avitia, 2015).

In the modern world, there are hardly any cases of people who by themselves carry out the creative process. This suggests that creativity is now underpinned by the power of teamwork (Zhou, Shin, Brass, Choi & Zhang, 2009). The existence of a privileged individual with an outstanding creativity is no longer the only paradigm, but has been replaced by the efficiency of multidisciplinary work, which is the environment present in the highly collaborative environments in which many employers and workers operate.

Creativity can be analyzed socially to fully understand its structural and relational aspects (Cornejo & Tapia, 2011). First, it is important for all organizations to understand creativity from the perspective of a social network and it is especially relevant for the study of business nature (Moccia, 2016). Creativity and its research from a social media perspective classifies relational and structural approaches, where the first approach emphasizes the strength of the links and the quality of relationships and the second emphasizes the structure of the relationships that forms it (Shalley, Hitt, Zhou, Perry-Smith & Mannucci, 2015).

The interest in analyzing creativity from the social group approach has to do with the influence attributed to individual creativity and innovation, although this social vision does not guarantee success (Freire-Gibb & Nielsen, 2014). In this sense, creativity can be conceptualized as a process of generating innovation by following the following steps: a) generation of the idea; b) elaboration of the idea; c) defense of the idea; and d) implementation of the idea (Kijkuit & Van Den Ende, 2007). In this sense, these have been defined as characteristics required for an individual who develops this process. The following are applied to each phase mentioned above: a) cognitive flexibility; b) support; c) influence; and d) shared vision. In addition, individual creators are required to have relational and structural elements to help them evolve at each stage (Perry-Smith & Mannucci, 2017), business efforts to develop and introduce more automated solutions into creative processes are also important (O'Brien & Murray, 2015).

In the development of social analysis of creativity, studies that analyze the use of social networks and their relationship to employee creativity have been carried by adopting a knowledge management approach to consider the influence of social media and interactions in the creativity of individuals (Sigala & Chalkiti, 2015). The most intensive use in time and in the activities of users who frequently use social networks with special impact in those activities that allow to maintain contact and share content with their peers (García, López-de-Ayala & Catalina, 2013), also provide an opportunity to document, describe and analyze creativity (Peppler & Solomou, 2011), friendship and collaboration opportunities are built from teamwork (Gandasegui, 2011), in the development of new industrial products (Kratzer, Leenders & Van Engelen, 2010), illustrating with joint actions the future of the society (Fundación iS+D, 2011).

There are multidimensional proposals to analyze subjective well-being in individuals and social groups (Ryff, 2005). The five-dimension proposal of social welfare, social integration, social contribution, social coherence, social updating and social acceptance is theoretically based on the existing literature (Keyes, 2006).

2. Materials and Method

The study was conducted through the quantitative approach by means of questionnaires to determine whether there is a relationship between the variables, as well as the collection of data to test the hypothesis raised, all this reflected in numerical and statistical data to establish existing relationships. As a non-experimental, correlational outreach, the aim is to evaluate the relationship between the dependent and independent variable and its behavior.

Figure 1. Diagram of study variables

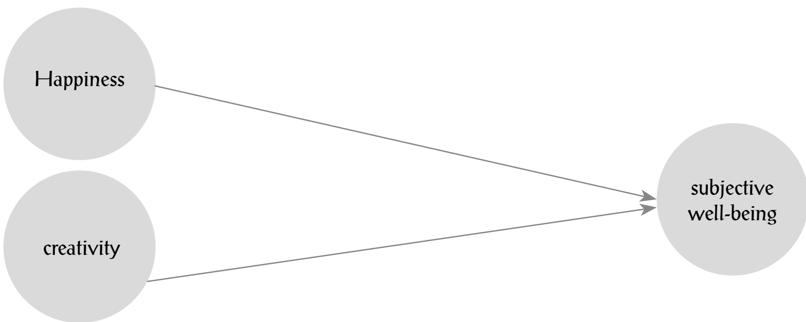


Figure 1 illustrates the study variables that make up this research. Research questions, hypotheses and objectives are derived from this assessment. Below are these points that will be analyzed in the items to be followed.

2.1. Research questions

1. Is happiness a factor influencing the perception of subjective well-being?
2. Is creativity a factor influencing the perception of subjective well-being?

2.2. General hypothesis

1. H. Happiness and creativity are factors that positively influence the perception of subjective well-being.
2. H0. Happiness and creativity are not factors that positively influence the perception of subjective well-being.

p-ISSN: 1390-6291; e-ISSN: 1390-8618

2.3. Research hypothesis

1. H1 Happiness positively influences the perception of subjective well-being.
2. H10 Happiness does NOT positively influence the perception of subjective well-being.
3. H2 Creativity positively influences the perception of subjective well-being.
4. H20 Creativity does NOT positively influence the perception of subjective well-being.

2.4. General objective

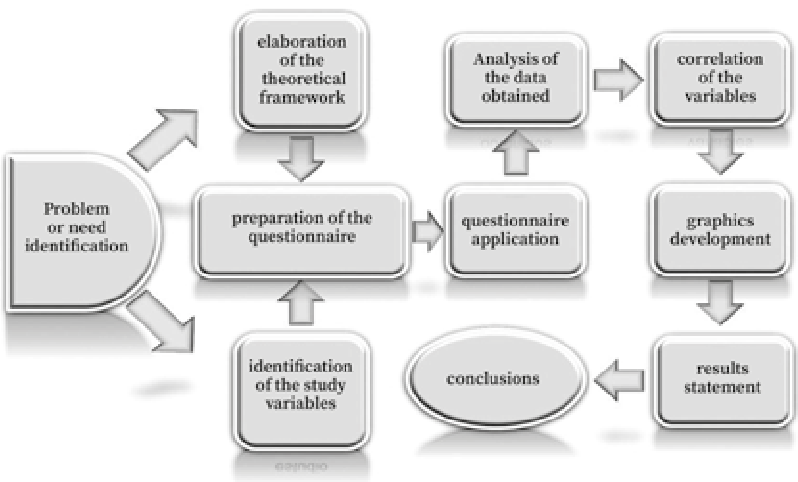
To determine whether happiness and creativity are factors that positively influence the perception of subjective well-being.

2.5. Specific objectives

1. To determine whether happiness positively influences the perception of subjective well-being.
2. To determine whether creativity positively influences the perception of subjective well-being.

It is an applied, documentary, correlational, non-experimental and transectional research that seeks to understand the phenomenon of research, where an analysis was carried out based on three variables: creativity, happiness and subjective well-being. It has been carried out with students and graduates of the Faculty of Accounting and Administration in Tijuana, B.C., Mexico to know the perception on the study variables and from which the process indicated in Figure 2 is followed.

Figure 2. Methodological diagram



Source: Own elaboration based on (Hernández-Sampieri *et al.*, 2014).

2.6. Determination of the sample

The total number of questionnaires was calculated according to the formula corresponding to this type of sampling on the population of the Faculty of Accounting and Administration at Universidad Autónoma de Baja California, which amounts to 3900 students plus a detected population of 1200 graduates, for a total of 5100 individuals for this calculation.

Thus, proportionally and with initial variability levels of p = q = 0.5, 95% confidence and a 6.21% error, for Z = 1.96, the sample was determined in 249 instruments (Fernández-Nogales, 1998).

Table 1. Sample determination

Finite population	
Population (N)	5,100 student
Origin of the population	FCA - UABC*
P	50.00%
Q	50.00%
Permissible error (E)	6.21%
Z	1.96
Confidence level (K)	95.00%
Sample size (n)=	249
E = 2 * raíz (N-n) / (n-1) * (p*q / n) =	6.34%

* Faculty of Accounting and Administration – Universidad Autónoma de Baja California

2.7. Sample description

The composition of the study sample is detailed in Table 2, which concentrates data on gender, marital status, area and level of studies, age range, nationality, country of residence and work activity. This data provides a more holistic perspective on the characteristics of the universe under study.

Table 2. Descriptive sample data

Descriptive indicators	Number	Definition
Gender	113 136	Masculine Femenine
Marital status	194 24 22 3 6	Single Married Free union Divorced Other
Age	18-25 26-35 36-45 45-62	197 30 16 6

Indicador descriptivo	Number	Definition
Academic level	19 209 18 2 1	Baccalaureatte Bachelor's degree Master's degree PhD Post-doctorate
Working status	123 126	Yes No

2.8. *Measuring instrument*

To meet the objectives of the research, it is necessary to operationalize the theoretical and conceptual framework. Research objectives and questions, along with study variables and hypotheses, are basically the indicators for building the measuring instrument. This chapter applies empirical knowledge to collect field information. Once this stage is complete, the information must be prepared for its processing. The points that indicate this process are:

- Measurement of instrument design.
- Measurement scales.
- Instrument reliability tests.
- Data collection.
- Data processing.

Table 3. Measuring Instrument Scales

Scale type	Index amplitude
Likert	1. Totally disagree 2. Disagree 3. Partially disagree 4. Neither agree nor disagree 5. Partially agree 6. Agree 7. Totally agree

The instrument chosen for the collection of information was the questionnaire, this being multiple options from specific scales, providing information for the analysis of each of the variables that influence the factors involved in the perception of subjective well-being.

Likert scale was used to describe the perceptions of the interviewees in reference to each of the items that make up the questionnaire. Table 3 shows the values presented in the instrument responses and the value they represent in the index amplitude column. Finally, Table 4 presents the instrument used to carry out this research

Retos, 9(18), 2019

Table 4. Measuring Instrument

variables	items	references
Subjective well-being	Well-being depends on the person's subjective perception of his or her life. With regard to this, the conditions of my life make me feel totally fulfilled.	(Angner, 2010), (Atkinson, Bagnall, Corcoran, South & Curtis, 2019) (Goucha et al., 2004), (Moreno & Marrero, 2015), (Huppert, Baylis, & Keverne, 2012), (Diener & Ryan, 2009), (Helliwell & Putnam, 2004), (Keyes, 2006), (Nyklíček, Zeelenberg, & Vingerhoets, 2011), (Appau, Churchill & Farrell, 2019).
	In most things I do, my life is close to my ideal.	
	The activities and occupations I have, make me feel accomplished.	
	So far I have achieved the things that are important to me in life.	
Happiness	In general, I consider myself a happy person.	(Lyubomirsky, 2008), (Ahumada-Tello, 2017), (Huppert et al., 2012). (Baumeister, Vohs, Aaker, & Garbinsky, 2013), (Moccia, 2016).
	Compared to my peers, I consider myself a happy person.	
Creativity	Generally speaking, to what extent do you consider yourself a creative person?.	(Perry-Smith & Mannucci, 2017), (Freire-Gibb & Nielsen, 2014), (Bourdieu, 2015), (Sawyer, 2012), (Pascale, 2005), (Ooms, Bell, & Kok, 2015), (Zhou, Shin, Brass, Choi, & Zhang, 2009), (Chacón, 2005), (Fanchini, Jongbloed & Dirani,(2019).
	Generally speaking, to what extent do you consider yourself an innovative person?.	

3. Results

3.1. Reliability tests

Table 5 shows that high rates of Cronbach’s Alpha are obtained when performing reliability analysis of the results of the questionnaire application, indicating that the reliability of the instrument is significant. Also, it can be observed that the relationship between factors and Alpha of Cronbach indicates that the instrument has significant content validity.

Table 5. Reliability Study

variables	# Items	Alpha de Cronbach
Bienestar subjetivo	4	.877
Creatividad	2	.768
Felicidad	2	.900

Table 5 shows that Cronbach´s Alpha values for the Subjective Well-being variable is 0.877, for the Creativity variable is 0.768 and for the Happiness variable is 0.900. All three values demonstrate that in a sufficient proportion, respondents understood the same construct for each of the evaluated elements. According to

p-ISSN: 1390-6291; e-ISSN: 1390-8618

Nunally (1967), when this value is 0.600 or higher, it is considered valid and accepted for social studies.

3.2. *Pearson correlation*

A correlation between Subjective Well-being and Happiness can be observed in Table 6 (= 0.672 and $p < 0.001$). In the same way, the correlation between Subjective Well-being and Creativity is representative ($r = 0.406$ and $p < 0.001$). This interpretation does not imply causation, since the relationship only implies that the variables would confine each other. It is important to consider that the correlation level in both cases is moderate positive.

Table 6. Pearson Correlation Table

		Subjective well-being	Happiness	Creativity
Subjective well-being	Pearson Correlation	1		
	Sig. (bilateral)			
	N	249		
Happiness	Pearson Correlation	.672**	1	
	Sig. (bilateral)	.000		
	N	249	249	
Creativity	Pearson Correlation	.406**	.227**	1
	Sig. (bilateral)	.000	.000	
		249	249	249

** The correlation is significant at 0.01 (bilateral).

It is also important to mention that the correlation between Happiness and Creativity is positive and representative, since it mentions that $r = 0.227$ and it is reliable since $p <0.001$. However, the latter relationship is lower and does not indicate high correlation.

Table 7. Hypothesis assessment

Hypothesis	Description	Conclusions
$H_{1}0$	Happiness DOES NOT positively influence the perception of subjective well-being	It is rejected because $p < .05$
$H_{2}0$	Creativity does NOT positively influence the perception of subjective well-being	It is rejected because $p < .05$

Table 7 indicates that null hypotheses are rejected. The results indicate that if there is a relationship between variables with an acceptable significance level, the correlation between these variables is significant at 0.01, causing changes that affect the other variable observed in a positive measure. It is then confirmed that Happiness and Creativity have a positive and significant influence on the subjective well-being of the studied population.

3.3. One-way ANOVA

The ANOVA analysis is carried out to find the relationship between the predictor variable happiness and the dependent variable subjective well-being, obtaining the results presented in Tables 8 and 9.

Table 8. One-way ANOVA Happiness - Subjective Welfare

	Sum of squares	df	Quadratic mean	F	Sig.
Intragroups	753.549	22	34.252	10.038	0,000
Groups	771.150	226	3.412		
Total	1524.699	248			

Table 8 shows a positive relationship between subjective well-being and happiness. In this sense, it is observed that the perception of happiness should be promoted and improved as far as possible to impact subjective well-being. The results of the variance analysis indicate that the predictor variable has a significant impact on the academic performance. Likewise, the happiness data, where F(22, 226) = 10.038 and p = 0.000, tends to increase subjective well-being as the perception of the happiness ratio increases.

Table 9. One-way ANOVA Creativity – Subjective Welfare

	Sum of squares	df	Quadratic mean	F	Sig.
Intragroups	394.489	22	17.931	4.030	0,000
Intergroups	1005.568	226	4.449		
Total	1400.056	248			

Table 9 indicates that there is a direct relationship between subjective well-being and creativity. In this regard, creativity should be promoted and improved as far as possible to impact subjective well-being. The results of the variance analysis indicate that the predictor variable has a significant impact on the academic performance. Likewise, the happiness data, where F(22, 226) - 4,030 and p = 0.000, presents a trend towards the increase of subjective well-being as the perception of the happiness ratio increases.

Table 10. One-way ANOVA - Hypothesis Evaluation

hypothesis	Description	F	p	Conclusions
H_10	happiness -> subjective well-being	F(22, 226) = 10.038	0,000	is rejected
H_20	creativity -> subjective well-being	F(22, 226) = 4.030	0,000	is rejected

The data presented in Table 10 show that the null hypotheses H10 and H20 are rejected in correspondence referred to in this Article. These results are consistent with the correlation analysis previously conducted by Pearson's study. The tests confirm an existing relationship between the study variables.

3.4. *Regression analysis*

Multiple regression is a statistical technique through which relationships between different variables can be analyzed. For example, between dependent or criteria variables and a group of independent or predictive variables. Table 11 illustrates the result of applying the Enter procedure for linear regressions. In this case, a mathematical model that describes the behavior of independent variables relative to the dependent is obtained.

Table 11. Coefficients[a]

Model		Non-standardized coefficients		Standarized coefficients	t	Sig.
		B	Standard error	Beta		
1	(Constant)	3.311	1.109		2.985	.003
	Creativity	.507	.086	.267	5.895	.000
	Happiness	1.112	.082	.612	13.481	.000

a. Dependent variable: Subjective well-being

The obtained model is represented in Table 12, showing the results that validate the rejection of null hypotheses by obtaining $P < 0.05$ on all the elements that make up the regression equation.

Table 12. Regression Model

Model	Constant B	Coefficients		Method	Level of significance
		Creativity	Happiness		
1	3.311	.507	1.112	Enter	10%
Subjective well-being = 3.311 + 0.507 Creativity + 1.112 happiness					

The model shows that happiness has more influence on the sense of subjective perception of well-being than creativity. This analysis confirms the results of Pearson's correlation and variance analysis.

4. Conclusions and discussion

Happiness and creativity are part of human life. In both constructs, phenomena that enhance or restrict them occur. In this sense, the importance of studying these variables in relation to subjective well-being becomes relevant. The perception of an emotion is variable and is subjected to countless factors that affect individuals in the face of the prerogative to indicate an evaluation level for concepts based on appreciation. The fact that the constructs of "happiness" and "creativity" are related to "subjective well-being" opens the analysis of the scenarios where these initial factors are promoted and finally accepted as part of subjective well-being, to which individuals aspire and can access according to strategies that are promoted in the areas of work and education.

In a society that constantly evolves and transforms, the human factor becomes the fundamental element for socio-economic growth, reason for which investigating the constructs that affect their perception of satisfaction, and therefore an appreciation of subjective well-being is important. Organizations and society should be focused on achieving their social and economic goals by relying on a human satisfied with his achievements and aware of his limitations in the personal and social sphere. Studies on these subjective concepts open the possibility of better understanding what an individual considers as part of his realization and at what level this affects his personal perceptions.

A total of 249 questionnaires were applied in this research. The object variables in this study were analyzed using the statistical techniques of Cronbach´s Alpha, Pearson correlation, variance analysis and regression equation. The results show the following findings:

- The H^1 hypothesis indicating that the more happiness there will be greater subjective well-being in students and graduates of Universidad Autónoma de Baja California is validated in Pearson's statistical correlation tests, variance analysis and regression equation. This dually confirms the relevance of happiness in the perception of better subjective well-being of students and graduates (Ravina-Ripoll, Galiano-Coronil & Tobar-Pesántez, 2019).
- The H^2 hypothesis that refers to creativity as an impact on the subjective well-being of students and graduates of Universidad Autónoma de Baja California is confirmed in Pearson´s correlation test, the variance analysis, as well as the regression analysis; therefore, it is accepted and as a final result of the research it is considered that the requirements for its acceptance are met, confirming the exercise of correlation where it has already been accepted.

The results found confirm the need to expand the spectrum of variables to be addressed to understand the phenomenon of increasing subjective well-being according to its subjective nature (Diener & Ryan, 2009). As can be confirmed, happiness is important for the subjective well-being as well as for the creativity, thus, in future work it is desirable to make approaches with holistic characteristics to include differences in economic, social, cultural and emotional systems (Nyklíček, Zeelenberg &

Vingerhoets, 2011), the influence of modern trends in gender equity and modification or consolidation of individual and social values that reinforce the perception of happiness, strategies for creativity and therefore subjective well-being.

This topic is broad and it is equally important to understand the behavior towards obtaining organizational growth. Subjective well-being is expected to be a precedent for what will be the ability to solve problems and meet objectives in the workplace in the future. It even goes further and considers that good-performing behaviors can be extrapolated to success in personal relationships.

References

Ahumada-Tello, E. (2017). Perception of Personal Competitiveness. A Study from the Perspective of Happiness, Well-Being and Education in University Graduates. *Revista de Estudios Empresariales - Segunda Epoca*, (1), 34–54. https://doi.org/ 10.17561/ree.v0i1.3187

Ahumada-Tello, E., Ravina-Ripoll, R., & Hernández de Velasco, J. (2018). El rol de las redes digitales en el desempeño académico y en la percepción de felicidad social en estudiantes universitarios en Baja California. En R. Ravina Ripoll, L. Tobar y A. Galiano (Coords.), *Claves para un desarrollo sostenible: la creatividad y el" happiness management" como portafolio de la innovación tecnológica, empresarial y marketing social* (pp. 99-116). España: Editorial Comares.

Angner, E. (2010). Subjective well-being. *Journal of Socio-Economics*, *39*(3), 361-368. https://doi.org/10.1016/j.socec.2009.12.001

Appau, S., Churchill, S.A., & Farrell, L. (2019). Social integration and subjective wellbeing. *Applied Economics*, *51*(16), 1748-1761. https://doi.org/10.1080/00036846.2018.1528340

Atkinson, S., Bagnall, A.M., Corcoran, R, South, J., & Curtis, S. (2019). Being Well Together: Individual Subjective and Community Wellbeing. *Journal of Happiness Studies*, Article in Press, 1-19. https://doi.org/10.1007/s10902-019-00146-2

Baumeister, R. F., Vohs, K. D., Aaker, J. L., & Garbinsky, E. N. (2013). Some key differences between a happy life and a meaningful life. *Journal of Positive Psychology*, *8*(6), 505-516. https://doi.org/10.1080/17439760.2013.830764

Chacón, Y. (2005). Una revisión crítica del concepto de creatividad. *Actualidades Investigativas n Educación*, *5*(1), 1-30. https://doi.org/10.15517/aie.v5i1.9120

Cornejo, M., & Tapia, M. L. (2011). Redes sociales y relaciones interpersonales en internet. *Fundamentos En Humanidades*, *12*(2), 219-229.

Diener, E., & Ryan, K. (2009). Subjective well-being: A general overview. *South African Journal of Psychology*, *39*(4), 391-406. https://doi.org/10.1177/008124630903900402

Easterlin, R. A. (2004). The economics of happiness. *Daedalus*, *133*(2), 26-33. https://doi.org/10.1162/001152604323049361

Fanchini, A., Jongbloed, J., & Dirani, A. (2019). Examining the well-being and creativity of schoolchildren in France. *Cambridge Journal of Education*, *49*(4), 391-416. https://doi.org/10.1080/0305764X.2018.1536197

Fernández-Nogales, A. (1998). *Investigación de mercados: obtención de información*. Madrid, España: S.L. CIVITAS EDICIONES.

Ferrando, M., Prieto, M. D., Ferrándiz, C., & Sánchez, C. (2005). Inteligencia y creatividad. *Electronic Journal of Research in Educational Psychology*, *3*(3), 21-49.

Freire-Gibb, L. C., & Nielsen, K. (2014). Entrepreneurship Within Urban and Rural Areas: Creative People and Social Networks. *Regional Studies*, *48*(1), 139-151. https://doi.org/10.1080/00343404.2013.808322

Gandasegui, V. (2011). Mitos y realidades de las redes sociales. *Prisma Social: Revista de Ciencias Sociales*, (6), 1-26.

García, A., López-de-Ayala, M., & Catalina, B. (2013). Hábitos de uso en Internet y en las redes sociales de los adolescentes españoles. *Revista Científica de Comunicación y Educación*, *21*(41), 195-204.

Gaut, B. (2010). The Philosophy of Creativity. Philosophy Compass, *5*(12), 1034-1046. https://doi.org/10.1111/j.1747-9991.2010.00351.x

Helliwell, J. F., & Putnam, R. D. (2004). The social context of well-being. En *Philosophical Transactions of the Royal Society B: Biological Sciences*, *359*(1449). https://doi.org/10.1098/rstb.2004.1522

Hernández-Sampieri, R., Fernández-Collado, C., & Baptista-Lucio, P. (2014). *Metodología de la Investigación* (6ta. ed.). México: McGraw-Hill.

Huppert, F. A., Baylis, N., & Keverne, B. (2012). *The Science of Well-Being*. United Kingdom: Oxford Scholarship Online. https://doi.org/10.1093/acprof:oso/9780198567523.001.0001

Keyes, C. L. M. (2006). Social Well-Being. *Social Psychology Quarterly*, *61*(2), 121-140 https://doi.org/10.2307/2787065

Kijkuit, B., & Van Den Ende, J. (2007). The organizational life of an idea: Integrating social network, creativity and decision-making perspectives. *Journal of Management Studies*, *44*(6), 865-882. https://doi.org/10.1111/j.1467-6486.2007.00695.x

Kratzer, J., Leenders, R. T. A. J., & Van Engelen, J. M. L. (2010). The social network among engineering design teams and their creativity: A case study among teams in two product development programs. *International Journal of Project Management*, *28*(5), 428–436. https://doi.org/10.1016/j.ijproman.2009.09.007

Lyubomirsky, S. (2008). *La ciencia de la felicidad: un método probado para conseguir el bienestar*. Barcelona, España: Ediciones Urano.

Lyubomksky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, *9*(2), 111-131. https://doi.org/10.1037/1089-2680.9.2.111

Moccia, S. (2016). Felicidad en el Trabajo. *Papeles Del Psicólogo*, *37*(2), 143-151.

Moreno, Y., & Marrero, R. (2015). Optimismo y autoestima como predictores de bienestar personal: diferencias de género. *Revista Mexicana de Psicología*, *31*(1), 27-36.

Nunally, J. C. (1967). *Psychometric Theory*. New York, Estados Unidos: McGraw Hill.

Nyklíček, I., Zeelenberg, M., & Vingerhoets, A. (2011). *Emotion regulation and well-being*. New York, Estados Unidos: Springer. https://doi.org/10.1007/978-1-4419-6953-8

O'Brien, C. & Murray, S.E. (2015). Sustainable wellbeing, creativity and innovation. *International Journal of Innovation*, *Creativity and Change*, *2*(1), 117-126.

Ooms, W., Bell, J., & Kok, R. A. W. (2015). Use of Social Media in Inbound Open Innovation: Building Capabilities for Absorptive Capacity. *Creativity and Innovation Management*, *24*(1), 136-150. https://doi.org/10.1111/caim.12105

Oswald, A. J., Proto, E., & Sgroi, D. (2015). Happiness and Productivity. *Journal of Labor Economics*, *33*(4), 789-822. https://doi.org/10.1086/681096

Pascale, P. (2005). ¿Dónde está la creatividad? Una aproximación al modelo de sistemas de Mihaly Csikszentmihalyi. *Arte Individuo y Sociedad*, *17*, 63-86.

Peppler, K. A., & Solomou, M. (2011). Building creativity: collaborative learning and creativity in social media environments. *On the Horizon*, *19*(1), 13-23. https://doi.org/10.1108/10748121111107672

Perry-Smith, J. E., & Mannucci, P. V. (2017). From creativity to innovation: The social network drivers of the four phases of the idea journey. *Academy of Management Review*, *42*(1). https://doi.org/10.5465/amr.2014.0462

Plucker, J. A., Esping, A., Kaufman, J. C., & Avitia, M. J. (2015). Creativity and intelligence. En S. Goldstein, D. Princiotta, y J. A. Naglieri (Eds.), *Handbook of Intelligence: Evolutionary Theory, Historical Perspective*, *and Current Concepts* (283-291). New York, Estados Unidos: Springer. https://doi.org/10.1007/978-1-4939-1562-0_19

Raibley, J. R. (2012). Happiness is not Well-Being. *Journal of Happiness Studies*, *13*(6), 1105-1129. https://doi.org/10.1007/s10902-011-9309-z

Ravina-Ripoll, R., Galiano-Coronil, A., & Tobar-Pesántez, L. (2019). Towards A Happy, Creative And Social Higher Education Institution: The Case Of Non-Profit Marketing And Business Creation Subjects At The University Of Cadiz. *Journal of Entrepreneurship Education*, *22*(1), 1-8. Recuperado de https://bit.ly/2MPXQ60

Ryff, C. D. (2005). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069-1081. https://doi.org/10.1037/0022-3514.57.6.1069

Sawyer, R. K. (2012). *Explaining Creativity: The Science of Human Innovation*. *Creativity*. New York, Estados Unidos: Oxford University Press.

Perry-Smith, J., & Mannucci, P. V. (2015). Social Networks, Creativity, and Entrepreneurship. En C. E. Shalley, M. A. Hitt, & J. Zhou (Eds.), *The Oxford Handbook of Creativity*, *Innovation*, *and Entrepreneurship*. Oxford Handbooks Online. https://doi.org/10.1093/oxfordhb/9780199927678.013.0016

Sigala, M., & Chalkiti, K. (2015). Knowledge management, social media and employee creativity. *International Journal of Hospitality Management*, *45*, 44-58. https://doi.org/10.1016/j.ijhm.2014.11.003

Smith, T.S.J., & Reid, L. (2018). Which 'being' in wellbeing? Ontology, wellness and the geographies of happiness. *Progress in Human Geography*, *42*(6), 807-829. https://doi.org/10.1177/0309132517717100

Zhou, J., Shin, S. J., Brass, D. J., Choi, J., & Zhang, Z. X. (2009). Social Networks, Personal Values, and Creativity: Evidence for Curvilinear and Interaction Effects. *Journal of Applied Psychology*, *94*(6), 1544-1552. https://doi.org/10.1037/a0016285

Retos, *9*(18), 2019
Revista de Ciencias de la Administración y Economía | ISSN impreso: 1390-6291; ISSN electrónico: 1390-8618

www.retos.ups.edu.ec

Tax compliance and wellbeing: an analysis with a global perspective

Cumplimiento fiscal y bienestar: Un análisis con perspectiva mundial

Camino González-Vasco is a researcher at Instituto de Estudios Fiscales del Ministerio de Hacienda (Spain) and Universidad Rey Juan Carlos (Spain) (camino.gonzalez@ief.minhafp.es) (https://orcid.org/0000-0002-5621-1638)

PhD. María Jesús Delgado-Rodríguez is a professor and researcher at Universidad Rey Juan Carlos (Spain) (mariajesus.delgado@urjc.es) (http://orcid.org/0000-0003-3830.2701

PhD. Sonia de Lucas-Santos is a professor and researcher at Universidad Autónoma de Madrid (Spain) (sonia.delucas@uam.es) (http://orcid.org/0000-0002-1490-3820)

Abstract

Tax collection is the basis for the development of welfare states in the countries, in their social, economic and environmental aspects, and it is a guarantor of their happiness. The strengthening of tax morale and tax compliance of citizens is not only important to achieve the goals assumed by fiscal policy but also are part of the values that can generate a higher level of personal satisfaction. The aim of this research is to provide a global overview of the changes that have occurred in tax revenues and their relationship with the greater or lesser degree of wellbeing achieved by citizens. To carry out this research, the databases of tax statistics offered by the OECD and the global index of sustainable development offered by the New Economics Foundation have been used. The results show that countries with greater tax collection on their GDP and with more solid tax structures also have high levels of welfare. Among the countries that show the best results are Holland and Norway, with high levels of happiness and tax compliance. However, it must be highlighted the important role played by the environment, which justifies the results reached by some countries, generally with less economic development. The evidence obtained has important implications for the design and application of fiscal policies in the world.

Resumen

La recaudación fiscal supone la base para el desarrollo de los estados de bienestar en los países, tanto en su vertientes social, económica y medioambiental, como garante de su felicidad. El fortalecimiento de la moral tributaria y el cumplimiento fiscal de los ciudadanos no solo es importante para lograr alcanzar las metas asumidas por la política fiscal, sino que también forman parte de los valores que pueden generar un mayor nivel de satisfacción personal. El objetivo del presente trabajo es ofrecer una panorámica mundial sobre los cambios que se han producido en los ingresos fiscales y su relación con el mayor o menor grado de bienestar alcanzado por los ciudadanos. Para llevar a cabo esta investigación se han utilizado las bases de datos de estadísticas tributarias ofrecidas por la OCDE y el índice global de desarrollo sostenible que ofrece New Economics Foundation. Los resultados muestran que los países con mayor recaudación tributaria sobre su PIB y con estructuras impositivas más sólidas cuentan también con altos niveles de bienestar. Entre los países que alcanzan los mejores resultados se encuentran Holanda y Noruega, con elevados índices de felicidad y de cumplimiento fiscal. No obstante, hay que destacar el importante papel desempeñado por el medio ambiente, que justifica los niveles de felicidad a los que llegan algunos países, en general de menor desarrollo económico. La evidencia obtenida tiene importantes implicaciones para el diseño y aplicación de políticas fiscales en el mundo.

Keywords | palabras clave

Fiscal policy, economics statistics, wellbeing, development economics, fiscal theory, international policy.
Política fiscal, estadística económica, bienestar, desarrollo económico, fiscalidad, política internacional.

Suggested citation: González-Vasco, C., Delgado-Rodríguez, M.J. y de Lucas-Santos, S. (2019). Tax compliance and wellbeing: an analysis with a global perspective. *Retos Journal of Administration Sciences and Economics, 9*(18), 331-344. https://doi.org/ 10.17163/ret.n18.2019.10

Received on: 05/31/19 | Reviewed on: 06/28/19 | Approved on: 07/14/19 | Published on: 10/01/19

Retos, 9(18), 2019

1. Introduction

The role of the tax system in society is much more important now than it was before, reason for which it is known as the body that finances the activities of the government and the public sector. Tax policies are increasingly being used to provide non-collection objectives, such as stimulating regions, behaviors and social benefits, among others. Therefore, its perception and its economic, social and environmental effects are increasingly interesting and with a greater impact on the well-being of citizens who are increasingly aware of their importance (Hanousek & Palda, 2004; Adams, 1993; Dubin *et al.*, 1990). However, the broader the role of the state, the higher the revenue the government of a country will need to address the challenges entrusted. Much of this income will come from taxes, thus tax revenues will have to be adapted to these needs. The structure of these systems will have to be a reflection of the preferences of each country, as well as its economic features and other characteristics (Alm *et al.*, 1990, 1992, 1993; Tanzi, 2010; Baier & Glomm, 2001; Yitzhaki, 1974).

The payment of taxes is a tax obligation that all taxpayers must assume as part of their activities (Harbaugh *et al.*, 2007; Alm, 1998; Gordon, 1989). Although it has not been routinely regarded as a pleasant activity, a more positive awareness is gradually developing in the world in meeting tax obligations, as citizens are more committed to the role they play in the achievement of the "Welfare State" (Angelopoulus *et al.*, 2007; Wittle & Woodbury, 1985).

The development of a fair tax system ensures that the resources raised will revert to society in multiple ways that will improve the welfare state and enable more happiness for citizens (Bjornskow *et al.*, 2001; Hayney *et al.*, 2003; Fehr *et al.*, 2003), although it is known that this tax compliance is still far from reaching the desired levels in many countries, with ineligible levels of tax evasion (Paredes, 2016; Alm, 2012; Gutz *et al.*, 2005).

The social and economic consequences of tax evasion are well known in terms of efficiency and equity for any economy. Fraud causes budget deficits that require spending or raising taxes, leading to a misallocation of resources, when fraudsters change their behavior regarding investments, working hours, etc., they alter income distribution to the extent that some taxpayers exploit the tax system better than others and generate feelings of distrust before the Law and institutions, as well as loss of collective values. The evidence on tax evasion is extensive (Andreoni *et al.*, 1998; Alm, 1998, 2012; Alm *et al.*, 1999, 2017; Hashimzade *et al.*, 2013; Slemrod & Weber, 2012) and its analysis has aroused great academic interest. In fact, there is a very interesting line of research on tax fraud and well-being that highlights the negative relationship between these variables, which is softened by the role of institutions and the level of social capital (*v.gr.* Ferrer-i-Carbonell and Gërxhani, 2016; Gërxhani, 2002; Gërxhani, 2004).

Regarding tax evasion, compliance with tax obligations has favorable and important effects for the society; this compliance has not been sufficiently studied and deserves the attention from academics and researchers, since the values being developed can generate a great positive impact for countries (Oishi *et al.*, 2011; Ram, 2009; Turnovsky, 2000). The studies on the dimension of national well-being and happiness have not yet included tax analyses in their variables (Ura *et al.*, 2012; Beytía

p-ISSN: 1390-6291; e-ISSN: 1390-8618

& Calvo, 2011), although they do usually include income indicators (Domínguez *et al.*, 2017; Graham, 2010; Stiglitz *et al.*, 2009). Despite this, there is a great interest in academic literature to analyze fiscal morality and its economic and social implications (Togler, 2007; Togler *et al.*, 2010; Frey & Stutzer, 2002; Feld & Tyran, 2002; Frey & Feld, 2002).

The study of the role of compliance with tax obligations in economic development is included among the lines of research at the Salesian Polytechnic University (Ecuador), within the projects conducted on Happiness Management, creativity and social welfare. The design of policies aimed at improving individual, corporate and the well-being of nations, needs them to incorporate elements of fiscal compliance as an objective that clearly promotes social and economic well-being, by enabling that the resources obtained are necessary to be able to provide the coverage of the essential needs for the society. Individuals and businesses contribute to a fairer and more equitable society. There is no doubt about the importance of contributing to companies by implementing measures related to Happiness Management (Ravina *et al.*, 2017) that enable the achievement of better business results.

This work will contribute to this analysis and it is focused on conducting an exploratory analysis on the possible relationships between the rates of tax collection to GDP, explaining this collection by tax categories and sustainable welfare rates. This is a still incipient line of research; thus the results are of great interest to advance on its research. The global perspective offered represents a guide for future analyses, given the differences between countries and regional groups in this field of study. The databases used in this research will allow to have a broad spatial perspective, having information for OECD countries as well as countries in Africa, Latin America and the Caribbean. In the following section, a brief description of the databases and the methodology used is presented.

2. Materials and method

Two databases of global scope and with relevant information to the proposed objectives on the relationship between tax compliance and the level of well-being have been used to carry out this research. There is also temporary coverage of interest, making it possible for the analysis performed to be a reflection of the current moment in which are being discussed the values that should be part of the key elements in the design of public policies in the coming years.

First, the information on global tax statistics data provided by the OECD[1] has been used. The global database of tax statistics developed in close collaboration with regional countries and organizations represents the largest source of comparable statistical data on publicly accessible tax revenue. The database provides reliable and publicly available indicators on the tax structures and levels of individual countries, and it supports global efforts to increase national public revenue with a view to financing sustainable development and economic and social well-being, while aiming at strengthening the capacity of both governments and fiscal policymakers to devise

1 Available on: https://bit.ly/2Ean9up [Checked on: 05/15/2019]

and undertake tax reforms that translate into an increase in domestic resources to finance the supply of goods and provision of public services, respectively. The database covers 80 countries from 1990 to 2017 from all areas of the world and it provides policymakers and researchers with a valuable and accessible resource based on the OECD internationally recognized standard.

The Global Sustainable Development Index was first published in 2006 by the New Economics Foundation and has continued to develop in 2009, 2012 and 2016[2]. The development of this index combines four variables to show the level of well-being of a country adjusted to the possibility of developing in the long term thanks to the sustainability of its natural resources. The information is available for 133 countries around the world in 2016. The components of the Global Sustainable Development Index are listed in Table 1. The state of the planet and the supply of natural resources are considered relevant aspects to promote economic development. This index is presented as innovative and has been the first to incorporate the environmental variable in the global measurement of well-being at the international level, including the level of well-being and life expectancy of citizens that relates to the ecological impact of consumption patterns. This indicator has 4 fundamental components:

Table 1. Composition and sources of the Global Development Index

Components	Source of information
Well-being	Gallup Global Survey
Hope of Life	United Nations Development Program
Ecological footprint	Global Footprint Network
Inequality	Life expectancy inequalities and per capita income levels

Source: http://happyplanetindex.org/

The information offered by this database comes from different sources, which is combined in order to offer great detail about the situation of happiness in the world. As the index is developed from primary sources, combining them to introduce elements that broaden the world's view of well-being, it is of greater interest to use the indicator to carry out the objectives of this work.

The databases used have enabled a descriptive statistical analysis with scatter plots. It is a mathematical diagram that uses Cartesian coordinates to display the values of two variables for a dataset and that allows to analyze visually the relationship between the total tax revenue with the sustainable development index. In this way, the objective is to classify countries according to their greater or lesser fiscal commitment and the effect they have on the happiness of their citizens, considering the greater or lesser correlation between these two variables, as well as the positive sign (direct relationship: when one variable increases, the other increases as well) or

2 Available on: https://bit.ly/2cMW6oI [Checked on: 05/15/2019]

negative (reverse ratio: when one variable increases the other reduces) depending on the situation of the quadrant it occupies.

This methodology also allows to see the possible relationship on a global scale considering the 80 countries available in the OECD database in 2016, establishing the type of relationship between variables and the strength of the relationship, which could be measured by the traditional correlation coefficients such as Pearson's (parametric) or Spearman's (non-parametric, which is used in cases where the variables examined do not meet normal criteria or when the variables are ordinal). This study uses Pearson coefficient, as it is incorporated by Excel for the adjustment line and also it meets the normal and independent conditions by having a high number of countries and only one observation of each variable for each country. Formally defined as:

$$\text{Coefiente correlación de Pearson} = \frac{\sum_i \sum_j (x_i - \bar{x})(y_j - \bar{y})}{\sqrt{\sum_i (x_i - \bar{x})^2 \sum_j (y_j - \bar{y})^2}}$$

Additionally, the scatter chart can help to easily identify patterns related to groups, analyzing differences between groups, different positions between groups, groups of clusters, patterns not related to groups, outliers and extremes values.

3. Results

This section is focused on the information for the year 2016, which is the last year available for the Sustainable Development database. The analysis has also been performed for the remaining years available (2006, 2009 and 2012), but by space limitation and since there are no major changes in the results, only the evidence obtained for the last year is provided. With respect to the overall data of tax statistics, the study will be conducted for the total tax revenue on GDP, and for its main components (Indirect taxation, income taxation, social security contributions and imposition on property). The exploratory analysis is presented in the scatter plots that present the results obtained, in which the main features to be highlighted in each have been marked.

3.1. Total tax revenue on GDP

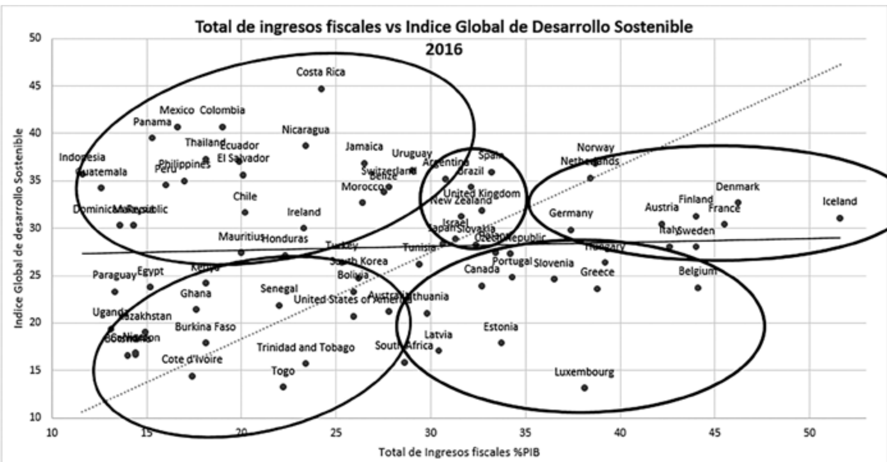
This section presents the information about the percentage of total tax revenue on GDP and the level of sustainable development. The aim of this exploratory analysis was to highlight the extent to which countries with higher tax revenues and with more commitment to public funding of state actions are those where higher sustainable well-being is also achieved. This last aspect is very important, since a measure of well-being that contemplates environmental aspects in its measurement has been selected, being aware that it is increasingly necessary to take into account these aspects when capturing more fully all dimensions of the well-being of individuals.

The results obtained are presented in Figure 1, identifying the main groups of countries found. The total tax collection ratio on GDP (total government revenue as a percentage of GDP) have been used as an indicator of tax compliance, as well as the

Retos, 9(18), 2019

global indicator of sustainable development to measure well-being. Graphical analysis allows to verify the European countries that have reached the highest values for the tax compliance indicator, confirming the further development of their tax systems and their greater fiscal commitment (group collected in the upper right quadrant). In turn, welfare levels in these countries are also among the highest. The case of Norway, the Netherlands, Denmark and France is remarkable. A second group of countries is found, consisting of other European countries, Argentina, Brazil, and Japan among others that reach balanced levels of tax compliance and welfare (group noted in the center of the figure).

Figure 1. Total Tax Revenue vs. Tax Revenue Global Sustainable Development Index (2016)



The next group consists of mainly Latin American countries, which without having high levels of public income they reach the highest levels of well-being (group marked in the upper left quadrant). Costa Rica is in this group, which is a country that most often appears in the rankings of the happiest countries of the world. To better understand this type of result, it must be taken into account that the overall rate of sustainable well-being includes the level of subjective well-being of individuals, their life expectancy, the ecological footprint and the levels of inequality; therefore, this measure provides a very interesting insight into the welfare conditions of these countries.

There are countries in the fourth group with high levels of tax revenue, but low levels of well-being (group located in the lower right quadrant). In this case, its explanation relates to the fact that it deals with small countries, such as Luxembourg and Portugal. Their lower level of well-being is linked to higher inequalities and lower rates of subjective well-being.

In the last welfare group (group located in the lower left quadrant) are countries with lower tax revenues and lower levels of well-being. In this group, the result is striking for the United States, with a much smaller than expected weight of its tax revenue on GDP and in turn significant social inequalities and lower commitment to the environment, justifying its low level of well-being. On the other hand, there are countries with tax and welfare income despite their low ecological impact that takes place in sub-Saharan Africa and the average impact on the Middle East and North Africa, but that do not translate into a high rate due to the other factors.

Thus, Sub-Saharan Africa has the lowest score for life expectancy, subjective well-being and inequality between the two results. These values are explained by the poverty conditions presented by these countries, showing that it is not feasible to talk about development and social welfare when basic needs are not met.

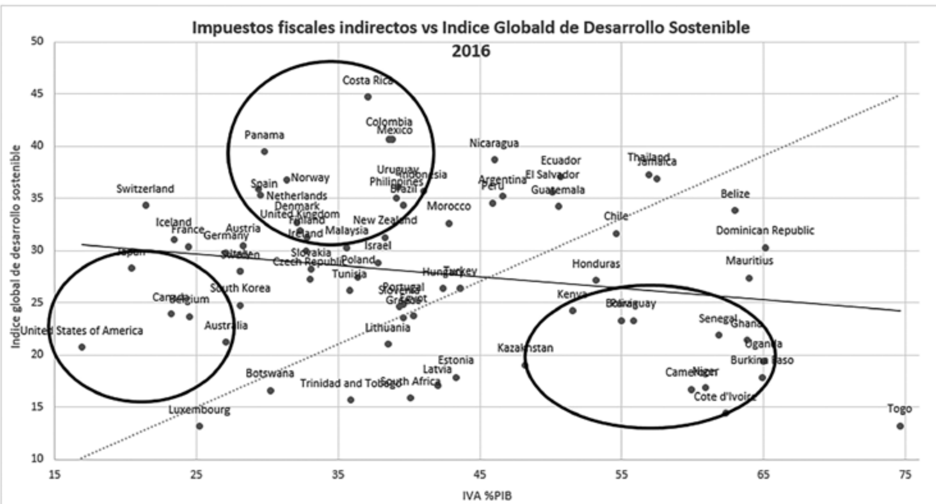
The exploratory analysis of the relationship of fiscal compliance and happiness for the main tax groups that make up the Tax Systems in the countries of the world was also conducted in this study:

- Tax revenue from indirect taxation on GDP.
- Tax revenue of income on GDP.
- Revenue from Social Security contributions on GDP.
- Income on property over GDP.

3.2. Indirect tax revenue relative to GDP

Indirect taxation is every time more important in the Tax Systems, hence, it is one of the areas that is expected to develop more in the coming years in all the countries of the world. Figure 2 shows the results of this analysis.

Figure 2. Indirect taxes vs. Global Sustainable Development Index (2016)



A large distribution in the behaviors of the countries analyzed is observed, since indirect taxation is the main source of income in countries with low levels of

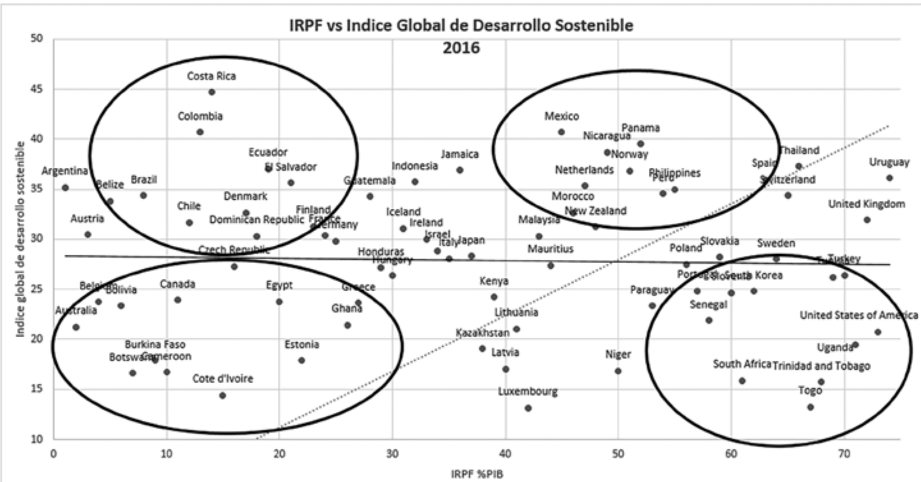
Retos, 9(18), 2019

well-being. This is the case in Senegal and Kenya, among others (group indicated in the lower right quadrant). On the other hand, countries with lower levels of indirect tax share in their public revenues are seen, but which excel in their welfare levels. In addition to Costa Rica, there are countries such as Norway, Holland, Colombia and Mexico (group that are marked in the upper quadrant). Finally, there are countries with reduced indirect taxation weight and low levels of well-being (group located in the lower left quadrant), in this group stands out USA.

3.3. *Income tax in relation to GDP*

Income tax is one of the main taxes in the tax systems of most developed countries. The analysis of this variable allows to establish several groups of countries in terms of the levels reached by this variable (Figure 3). A first group, including countries with high tax revenues from this tax along with high levels of well-being stands out, this is the case for Norway, Switzerland, Sweden, Spain, Mexico and the Netherlands. This is the group that is underlined in the upper right quadrant.

Figure 3. Personal Income Tax (IRPF) vs. Sustainable Development Index (2016)

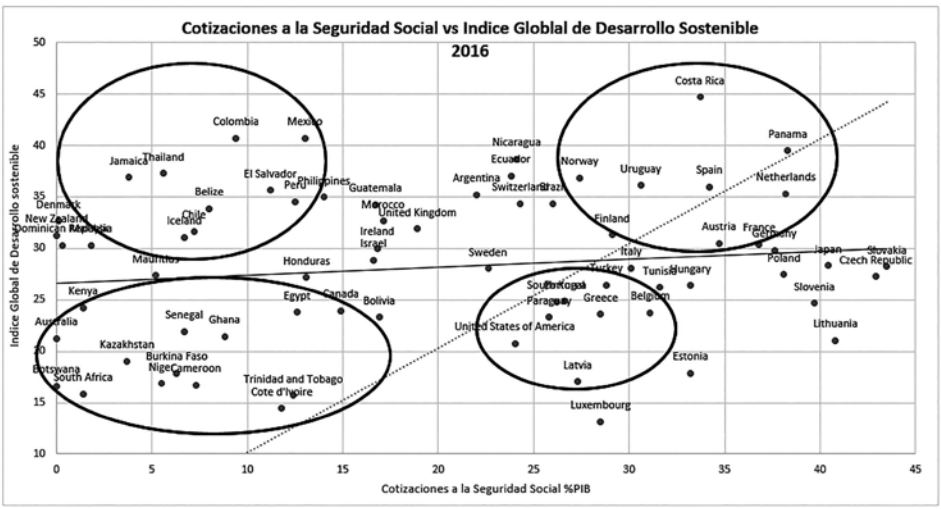


There is also a big group of countries with high income tax weight in their public income, but without any improvement in their well-being levels. The countries herein are US, Luxembourg, Portugal, as well as a significant number of African countries (see group in the lower right quadrant). This is a tax that appears as the most important regardless of the size of the country. There is a group of countries with low levels of tax share in their tax revenues. In this group there are economies, which despite this have reached high levels of well-being thanks to their better living conditions and l environment: Costa Rica, Colombia and Ecuador, among others (it is the group in the upper left quadrant). Also within this group, there are countries with low levels of well-being, among them Canada, Australia and Greece, as well as African countries (group indicated in the lower left quadrant). It is noteworthy the diversity of countries found in this situation with different sizes and economic development.

3.4. Tax revenue from Social Security Contributions in relation to GDP

One of the taxes with greatest interest by its direct relationship on the welfare of citizens of an economy is that of Social Security contributions, since it is the tax related to allowance payments and income redistribution. The analysis carried out (Figure 4) has allowed to identify those countries in which this tax plays an important role. Among them are Costa Rica, Holland, Spain, Panama and Germany, which also reach very high levels of well-being (group located in the upper right quadrant). Otherwise, South Africa, Kenya and Canada would be with lower levels in both indicators (group located in the lower left quadrant).

Figure 4. Social Security Contributions vs. Global Sustainable Development Index (2016)



In analyzing this indicator, countries are found with a low weight of this tax in their tax revenues, but with reasonable and even high levels of well-being: such as Colombia, Mexico and Denmark (group located in the Left Upper Quadrant). The US´s results are one more time surprising, since US does not reach high levels of well-being (right lower quadrant group), despite its high income levels for this concept.

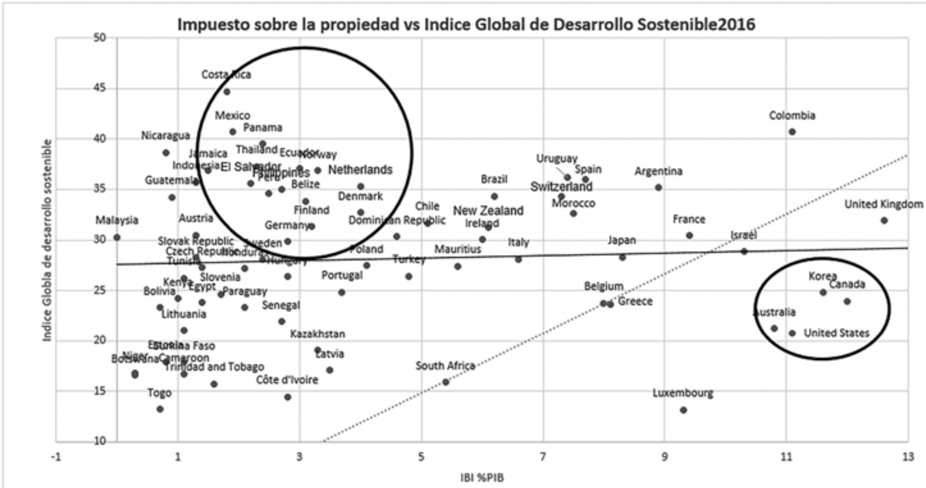
3.5. Property tax relative to GDP

Property tax offers an interesting prospect of analysis, as this is a prominent tax for only a small number of people. Nevertheless, the evidence reached (Figure 5) makes it possible to verify that this is a tax established in countries with high levels of income

Retos, 9(18), 2019

and development, excepting Colombia. US results are still surprising, since US continues reaching very low levels of well-being (group in the lower right quadrant).

Figure 5. Property tax vs. Global Sustainable Development Index (2016)



A group of countries that show reduced development of property taxation but have high levels of well-being should also be mentioned. In this case it is also found Costa Rica, Norway, Holland, Austria, Germany, Mexico and Panama (group indicated in the upper left quadrant).

4. Conclusions and discussion

The first results obtained in the research have been presented with the aim of demonstrating the positive contribution of tax compliance to the well-being of citizens and their happiness. This analysis provides elements of interest not only to be considered in national wellness analyses but also to improve corporate well-being, within the research line of Happiness «Happiness Management». Strengthening a "tax morality" in a country will contribute both to improving tax collection and to increasing society's social commitment. In fact, higher tax compliance is shown to be linked to better levels of well-being. There is no doubt that reducing tax evasion favors a fairer contribution. But it is no less important to note that having committed and happy workers is also related to having templates in which there is greater responsibility for taxation as an element that reinforces social morals and work ethic.

Two databases of great interest have been used to carry out this research, as they allow this analysis to be carried out with a global perspective, something unusual in most tax work, but that the OECD's global tax statistics database and the New Economics Foundation's global indicator of sustainable development allow for temporary coverage very current. In addition, in this work a new measure of well-being is used, as it incorporates environmental variables in its measurement. Primary sources of welfare information (as is the case with the Gallup Happiness Survey) have not been used, but instead indicators that synthesize a greater amount of information of great relevance to this analysis and that has allowed to draw conclusions of great interest to public policymaking.

The results obtained, although inconclusive, constitute a first exploratory approach that has allowed a good number of countries in the world to be characterized by the share of their tax revenues in their GDP and the overall level of well-being of the population. In this regard, it was observed how, in general, the Nordic countries led by Norway and a big part of the countries of the European Union-15 (including The Netherlands, Germany and France) are very well positioned on the indicators used. There is no doubt that fiscal development and compliance in these countries has helped to raise awareness of their importance and has improved their well-being levels, not only because more public actions have been addressed but because they have made a great effort to compromise their citizens with their compliance, which has possibly generated a sense of well-being and happiness. Their improved levels of well-being have also been helped by high life expectancy and confidence in government institutions, lower perceptions of corruption-related issues along with reduced levels of inequality.

There is another group of countries, including European countries, Latin America and other world economies such as Japan, which reach average levels in relation to the weight of their government revenue on GDP and their welfare levels, where life expectancy has a great contribution. Among these countries stands out Costa Rica, which is the country with the highest level of well-being in the world. In these countries the results are justified by their high levels of natural resources and other environmental indicators.

Another pattern of differentiated results can be found between countries, in general, small countries with a very high weight in their GDP tax revenues, but it is not observed that they correspond to adequate levels of well-being and happiness, mainly because of the existence of significant inequalities among their population. The most remarkable example in this group is Luxembourg.

There are reduced values in the two groups of indicators used in the Asia Pacific and North African and Sub-Saharan Africa country group. These are expected results that show the need for reforms at all levels. This group also includes the United States, which is a very important result, and which is justified by its lower environmental commitment and high levels of inequality.

An exploratory analysis was also conducted in this articled, based on the relationship between tax compliance and happiness for the main tax groups that shape tax systems in the countries of the world. Some very important differences between them were found. Evidence shows that direct taxation is not yet properly developed globally. On the other hand, income taxes and social contributions show the greatest impact on well-being. Finally, the property tax, while very important for some of the world's great economies, has the least contribution to the happiness of citizens.

Although the analysis carried out has been mainly descriptive, results that are quite promising and that attract great interest were obtained; thus, there is no doubt that this line of research should continue in order to provide government authorities with new opportunities to reformulate public policies by increasing the welfare levels of individuals. Governments and businesses must pass on the value of tax compliance as a key element in ensuring a society that guarantees the well-being of all. Delving into the information offered by each of the taxes are also aspects of great value for the design of tax policies, because they must take into account the different contribution to happiness of the different taxes.

References

Adams, C. (1993). *For Good and Evil. The Impact of Taxes on the Course of Civilization*. London, Canadá: Madison Books.

Alm, J. (1998). *Tax Compliance and Administration*. Working Paper No. 98-12, Center for Economic Analysis, Department of Economics, University of Colorado at Boulder.

Alm, J. (2012). Measuring, explaining, and controlling tax evasion: lessons from theory, experiments, and field studies. *International Tax and Public Finance*, *19*(1), 54-77. https://doi.org/10.1007/s10797-011-Economía, 9(18)1-2

Alm, J., Jackson B., & McKee, M. (1993). Fiscal Exchange, Collective Decision Institutions, and Tax Compliance. *Journal of Economic Behavior and Organization*, *22*(3), 285-303. https://doi.org/10.1016/0167-2681(93)90003-8

Alm, J., Bloomquist, K., & McKee, M. (2017). When you know your neighbourg pays taxes: Information, peer effects and tax compliance. *Fiscal Studies*, *38*(4), 587-613. https://doi.org/10.1111/1475-5890.12111

Alm, J., McClelland, G. H., & Schulze, W. D. (1992). Why Do People Pay Taxes? *Journal of Public Economics*, *48*(1), 21-48. https://doi.org/10.1016/0047-2727(92)90040-M

Alm, J., McClelland, G. H. y Schulze, W. D. (1999). Changing the Social Norm of Tax Compliance by Voting. *KYKLOS*, *52*(2), 141-171. https://doi.org/10.1111/j.1467-6435.1999.tb01440.x

Alm, J., McKee, M., & Beck, W. (1990). Amazing Grace, Tax Amnesties and Compliance. *National Tax Journal*, *43*(1), 23-37. https://www.jstor.org/stable/41788822

Andreoni, J., Erard, B., & Feinstein J. (1998). Tax Compliance. *Journal of Economic Literature*, *36*(2), 818-860. https://www.jstor.org/stable/2565123

Angelopoulos, K., Economides G., & Kammas P. (2007). Tax-Spending Policies and Economic Growth: Theoretical Predictions and Evidence from the OECD. *European Journal of Political Economy*, *23*(4), 885-902. https://doi.org/10.1016/j.ejpoleco.2006.10.001

Baier, S., & Glomm G. (2001). Long-Run Growth and Welfare Effects of Public Policies with Distortionary Taxation. *Journal of Economic Dynamics and Control*, *25*(12), 2007-2042. https://doi.org/10.1016/S0165-1889(00)00017-8

Beytía, P., & Calvo, E. (2011). *¿Cómo medir la felicidad? Claves de Políticas Públicas*, *4*. http://dx.doi.org/10.2139/ssrn.2302809

Bjørnskov, C., Dreher, A., & Fischer, J. (2007). The Bigger the Better? Evidence of the Effect of Government Size on Life Satisfaction around the World. *Public Choice*, *130*(3-4), 267-92. https://doi.org/10.1007/s11127-006-9081-5

Domínguez-Barrero, F., López-Laborda, J., & Rodrigo-Sauco, F. (2017). Tax Evasion in Spanish Personal Income Tax by Income Sources, 2005-2008: From the Synthetic to the Dual Tax. *European Journal of Law and Economics*, *44*(1), 47-65. http://dx.doi.org/10.1007/s10657-016-9553-0

Dubin, J., Graetz, M. y Wilde, L. (1990). The effects of audit rates on the Federal Individual Income Tax, 1977-1986. *National Tax Journal*, *43*(4), 395-409. https://www.jstor.org/stable/41788861

Fehr, E., Fischbacher, U., Rosenbladt, B., von Schupp, J., & Wagner, G. G. (2003). *A Nation-Wide Laboratory. Examining Trust and Trustworthiness by Integrating Behavioral Experiments into Representative Surveys*. CESifo Working Paper No. 866, IZA Discussion Paper No. 715. http://dx.doi.org/10.2139/ssrn.385120

Feld L.P., & Tyran, J.R. (2002). Tax Evasion and Voting: An Experimental Analysis. *KYKLOS*, *55*(2), 197-222. https://doi.org/10.1111/1467-6435.00183

Ferrer-i-Carbonell A., & Gërxhani, K. (2016). Tax evasion and well-being: A study of the social and institutional context in Central and Eastern Europe. *European Journal of Political Economy*, *45*, 149-159. https://doi.org/10.1016/j.ejpoleco.2016.09.004

Frey, B.S., & Stutzer, A. (2002). *Happiness and Economics*. Nueva Jersey, Estados Unidos: Princeton University Press.

Frey, B.S., & Feld, L.P. (2002). *Deterrence and Morale in Taxation: An Empirical Analysis*. CESifo Working Paper No. 760.

Gërxhani, K. (2002). *The informal sector in transition: Tax evasion in an institutional vacuum*. Amsterdam, Países Bajos: Thela Thesis/Tinbergen Institute.

Gërxhani, K. (2004). Tax evasion in transition: outcome of an institutional clash? Testing Feige's conjecture in Albania. *European Economic Review*, *48*(4), 729–745. https://doi.org/10.1016/j.euroecorev.2003.08.014

Gordon, J. P. P. (1989). "Individual morality and reputation costs as deterrents to tax evasion". *Journal of Public Economics*, *33*(4), 797-805. https://doi.org/10.1016/0014-2921(89)90026-3

Graham, C. (2010). *The challenges of incorporating empowerment into HDI. Some lessons from happiness economics and quality of life research*, United Nations Development Programme.

Gütz, W., Levati V., & R. Sausgruber (2005). Tax morale and (De)centralization: An Experimental Study. *Public Choice*, *125*(1-2), 171-188. https://doi.org/10.1007/s11127-005-3414-7

Habibov, N., & Afandi, E. (2015). Pre-and post-crisis life-satisfaction and social trust in transitional countries: an initial assessment. *Social Indicators Research*, *121*(2), 503-524. https://doi.org/10.1007/s11205-014-0640-8

Hanousek, J., & Palda, F. (2004). Quality of government services and the civic duty to pay taxes in the Czech and Slovak Republics, and other transition countries. *Kyklos*, *57*(2), 237-252. https://doi.org/10.1111/j.0023-5962.2004.00252.x

Harbaugh, W.T., Mayr, U., & Burghart, D.R. (2007). Neural responses to taxation and voluntary giving reveal motives for charitable donations. *Science*, *316*(5831), 1622-1625. https://doi.org/10.1126/science.1140738

Hashimzade, N., Myles, G. D., & Tran-Nam, B. (2013). Applications of behavioural economics to tax evasion. *Journal of Economic Surveys*, *27*(5), 941-977. https://doi.org/10.1111/j.1467-6419.2012.00733.x

Hayney, M.S., Love, G.D., Buck, J.M., Ryff, C.D., Singer, B., & Muller, D. (2003). The association between psychosocial factors and vaccine-induced cytokine production. *Vaccine*, *21*(19-20), 2428–2432. https://doi.org/10.1016/S0264-410X(03)00057-4

Oishi, S., Schimmack, U., & Diener, E. (2011). Progressive Taxation and the Subjective Well-Being of Nations. *Psychological Science*, *23*(1), 86-92. https://doi.org/10.1177/0956797611420882

Paredes P.R. (2016). Evasión tributaria vs. Mecanismos de control implementados por la administración pública. *Revista Retos*, *12*(2), 181-198. https://doi.org/10.17163/ret.n12.2016.04

Ram, R. (2009). Government Spending and Happiness of the Population: Additional Evidence from Large Cross-Country Samples. *Public Choice*, *138*(3-4), 483-490. https://www.jstor.org/stable/40270884

Ravina R., Villena F., & Gutiérrez G.A. (2017). Una aproximación teórica para mejorar los resultados de innovación en las empresas desde la perspectiva del Happiness Management. *Revista Retos*, *7*(14), 113-129. https://doi.org/10.17163/ret.n14.2017.06

Slemrod, J., & Weber, C. (2012). Evidence of the invisible: Toward a credibility revolution in the empirical analysis of tax evasion and the informal economy. *International Tax and Public Finance*, *19*(1), 25-53. https://doi.org/10.1007/s10797-011-9181-0

Stiglitz, J., Sen, A., & Fitoussi, J-P. (2010). *Report by the Commission on the Measurement of Economic Performance and Social Progress*. Recuperado de: https://bit.ly/2sq0MvV

Tanzi, V. (2010). Sistemas fiscales en la OCDE: evolución reciente, competencia y convergencia. *Papeles de Economía Española*, *125-126*, 1-17.

Torgler, B. (2007). *Tax compliance and Tax morale: A theoretical and empirical análisis*. Cheltelham, UK: Edward Elgar Publishing.

Torgler, B., Schneider, F., & Schaltegger, C. (2010). Local autonomy, tax morale and the shadow economy. *Public Choice*, *144*(1-2), 293-321. https://doi.org/10.1007/s11127-009-9520-1

Turnovsky, S, J. (2000). Fiscal Policy, Elastic Labor Supply, and Endogenous Growth. *Journal of Monetary Economics*, *45*(1), 185-210. https://doi.org/10.1016/S0304-3932(99)00047-1

Ura, A., Alkires A., & Sangmo T, (2012). *An extensive analysis of GNH index*. Thimphu, Bhutan: Centre of Buthan Studes.

Witte, A., & Woodbury, D. (1985). The effect of tax laws and tax administration on tax compliance: The case of U.S. individual income tax. *National Tax Journal*, *30*(1), 1-13. https://www.jstor.org/stable/41791992

Yitzhaki, S. (1974). A note on income tax evasion: a theoretical analysis. *Journal of Public Economics*, *3* (2), 201-202. https://doi.org/10.1016/0047-2727(74)90037-1

p-ISSN: 1390-6291; e-ISSN: 1390-8618

Editorial Guidelines

Basic writing rules

Universidad Politécnica Salesiana del Ecuador

1. General information

"Retos" is a bilingual scientific publication by the Universidad Politécnica Salesiana de Ecuador, which has been edited on a bi-annual basis since January 2011. The journal focuses on Development and transdisciplinary issues including Public Administration, Social Economics, Marketing, Tourism, Entrepreneurship, Management, Administrative and Economic Science, etc.

It is an arbitrated Scientific Journal that uses an external evaluation system known as *peer-review*, employing *double-blind review*, in accordance with the American Psychological Association (APA) style rules. By using this system, the authors have access to an objective, impartial and transparent review process, which facilitates their publication being included in databases, repositories, and international indexed references.

"Retos" is indexed in the selective directory and catalog of the Online Regional Information System for Scientific Journals in Latin America, the Caribbean, Spain, and Portugal (Latindex), in the REDALYC Scientific Information System, the Directory of Open Access Journals in repositories, libraries, and specialized catalogs in Ibero-America.

The Journal is published with two different editions: printed (ISSN: 1390-62911) and electronic (e-ISSN: 1390-8618), in Spanish and English, and each article is identified with a DOI (Digital Object Identifier System).

2. Scope and policies

2.1. Themes

Original contributions in Development issues, as well as related fields: Public Administration, Social Economics, Marketing, Tourism, Entrepreneurship, Management...and all other disciplines related to the central thematic issue.

2.2. *Contr*ibutions

"Retos" preferably publishes the results of empirical research about Development, written in Spanish and/or English, while reports, studies, and proposals are also accepted, as well as reviews of state-of-the-art literature.

All of the publications must be original, never have been published in any other journal, and not be undergoing any arbitration or publication processes. Contributions to the journal can include any of the following:

- **Research:** 5,000 to 6,500 words of text, including the title, abstracts, keywords, tables, and references.
- **Reports, Studies, and Proposals:** 5,000 to 6,500 words of text, including the title, abstracts, tables, and references.
- **Reviews:** 6,000 to 7,000 words of text, including tables and references. Justified, current, and selective references shall be evaluated, and should include around 70 publications.

"Retos" is published bi-annually (20 articles per year), in April and October, and each edition has two sections with five articles each, the first containing a **Monograph** theme edited by subject matter experts, and a second **Miscellaneous** section, made up of diverse contributions related to the publication's theme.

3. Presentation, structure, and submission of manuscripts

Papers are to be presented with Arial 10 typeface, single line spacing, all justified, without indentation or blank spaces between paragraphs. A space is only to be included between the major sections (title, authors, abstracts, keywords, credits, and epigraphs). All margins on each page must be 2 cm.

The papers are to be presented in Microsoft Word format (.doc or .docx), and the file is to be anonymous in the File Properties such that the author(s) is(are) not identified.

Manuscripts are to be submitted only through the OJS (Open Journal System), in which all authors must first register. Original papers sent via email or another interface are not accepted.

3.1. *Manusc*ript Structure

For papers that are empirical research, the manuscripts are to follow IMRDC structure, while Notes and Contributions epigraphs are optional. Papers that constitute reports, studies, proposals, and reviews are afforded greater flexibility in terms of epigraphs, especially in relation to Materials and Methods, Analysis and Results, and Discussion and Conclusions. All types of papers are required to include References.

1) **Title (Spanish) / Title (English):** Concise but informative, the first line in Spanish and the second, in English. Maximum 80 characters are accepted, including spaces. The Editorial Board is allowed to propose changes to the author's title.
2) **First and last names:** of each of the authors, organized in order of priority. Maximum three authors are accepted per original paper, although justified exceptions may be allowed, based on the theme, complexity, and length. The names are to be followed by the professional category, workplace, each author's email address and ORCID number. It is mandatory to include whether the author has a doctorate degree (Dr. before the name).

3) **Abstract (Resumen, Spanish) / Abstract (English):** This section can contain a maximum of 230 words, first in Spanish and then in English. The abstract shall concisely contain the following, and in this order: 1) Justification of the theme; 2) Objectives; 3) Methods and sample; 4) Main results; 5) Main conclusions. It should be written impersonally "This paper analyzes..." In the abstract, automatic translation is not accepted due to its poor quality.
4) **Keywords (descriptores, Spanish) / Keywords (English):** Six keywords are to be included for each language, and must be directly related to the paper's theme. This requirement shall be scored based on whether the keywords can be found in the UNESCO Thesaurus.
5) **Introduction and State of the Question:** The section proposes the question, the context of the issue surrounding it, justification, basis, and proposal for the study, using bibliographic references, including the most important up-to-date literature on the theme, both nationally and internationally.
6) **Material and Methods:** This is to be composed in such a way that the reader can easily understand how the research was performed. As appropriate, describe the method, sample, sampling, and refer to the type of statistical analysis used. If it is an original method, present the reasons for applying it, and describe any possible limitations.
7) **Analysis and Results:** This section should seek to highlight the most important observations, and without including any value judgments, describe the methods used. Throughout the text, essential tables and figures shall be included in a logical sequence, without repeating any data.
8) **Discussion and Conclusions:** This section summarizes the most important findings related to any observations from relevant studies, pointing out contributions and limitations, without repeating data from other sections. The discussion and conclusions paragraph is to include inferences and new lines of research for the future.
9) **Contributions and acknowledgment (optional):** The Science Editors Board recommends that the author(s) specify the financing source for their research. Priority shall be given to work endorsed by competitive national or international projects. Regardless, for the manuscript to be scientifically evaluated, it is to be anonymized with an XXXX only for the initial evaluation, in order to avoid identification of any of the authors or research teams, which are to be named in the Cover Letter and later, in the final manuscript.
10) **Notes** (optional) are included, only if necessary, at the end of the article (before the references). They are to be included manually, since the Word footnotes are not recognized by the layout systems. Note numbers are to be included using superscript, both in the text and in the final note. Notes including simple bibliographic references (without comments) are not allowed, since these are supposed to be included in the references.
11) **References:** Bibliographic references are to follow the text references. Under no circumstances should references be included that have not been cited in the text. There should be enough references in order to contextualize the theoretical framework, and be based on criteria of contemporary relevance and importance.

They are presented alphabetically, according to the author's last name (if the last name has more than one word, based on the first word of the last name).

3.2. Rules for references

Periodical publications

Journal article (one author) Valdés-Pérez, D. (2016). Incidencia de las técnicas de gestión en la mejora de decisiones administrativas [Impact of Management Techniques on the Improvement of Administrative Decisions]. *Retos*, *12*(6), 199-2013. https://doi.org/10.17163/ret.n12.2016.05

Journal article (up to six authors): Ospina, M.C., Alvarado, S.V., Fefferman, M., & Llanos, D. (2016). Introducción del dossier temático "Infancias y juventudes: violencias, conflictos, memorias y procesos de construcción de paz" [Introduction of the thematic dossier "Infancy and Youth: Violence, Conflicts, Memories and Peace Construction Processes"]. *Universitas*, *25*(14), 91-95. https://doi.org/10.17163/uni.n25.%25x

Journal article (more than six authors): Smith, S.W., Smith, S.L. Pieper, K.M., Yoo, J.H., Ferrys, A.L., Downs, E.,... Bowden, B. (2006). Altruism on American Television: Examining the Amount of, and Context Surronding. Acts of Helping and Sharing. *Journal of Communication*, *56*(4), 707-727. https://doi.org/10.1111/j.1460-2466.2006.00316.x

Journal article (with no DOI). Rodríguez, A. (2007). Desde la promoción de salud mental hacia la promoción de salud: La concepción de lo comunitario en la implementación de proyectos sociales. *Alteridad*, *2*(1), 28-40. (https://goo.gl/zDb3Me) (2017-01-29).

Books and chapters of books

Complete books: Cuéllar, J.C., & Moncada-Paredes, M.C. (2014). *El peso de la deuda externa ecuatoriana*. Quito: Abya-Yala.

Chapters of a book: Zambrano-Quiñones, D. (2015). *El ecoturismo comunitario en Manglaralto y Colonche*. En V.H. Torres (Ed.), Alternativas de Vida: Trece experiencias de desarrollo endógeno en Ecuador (pp. 175-198). Quito: Abya-Yala.

Electronic media

Pérez-Rodríguez, M.A., Ramírez, A., & García-Ruíz, R. (2015). La competencia mediática en educación infantil. Análisis del nivel de desarrollo en España. Universitas Psychologica, 14(2), 619-630. https://doi.org.10.11144/Javeriana.upsy14-2.cmei

All reference that have a DOI (Digital Object Identifier System) must be included in the References (which can be obtained at http://goo.gl/gfruh1). All of the journals and books that do not have a DOI are to appear with a link (to the online version, if available, shortened using Google Shortener: http://goo.gl) and the date of query in said format.

Journal articles are to be listed in English, except for those that are available in Spanish and English, in which case, both languages are to be included in brackets. All internet addresses presented are to be shortened in the manuscript, except for the DOI, which are to be included in the established format (https://doi.org/XXX).

3.3. Epigraphs, Tables, and Graphs

The epigraphs in the article's body are in Arabic numbers. These are to avoid all capital letters, underlining, or bold text. Numbering should use maximum three levels: 1. / 1.1. / 1.1.1. A carriage return is to be used at the end of each epigraph.

Tables are to be included in the text in Word format, according to their order of appearance, with Arabic numbering and captioned with a description of their content.

Graphics or figures should be kept to a minimum and incorporated into the text, in accordance with their order of appearance, with Arabic numbers and captions with a short description. Quality should be no less than 300 ppp, if necessary, using TIFF, PNG, or JPEG formats.

4. Submission process

The papers are to be submitted in two files through the journal's OJS system:

1) **Cover letter and title page,** which includes the title in Spanish and English, first and last names of the authors (standardized format) with ORCID number, abstract in Spanish and English, keywords in Spanish and English, and a declaration that the manuscript constitutes an original contribution that has not been sent for evaluation in another journal, confirmation of the authorship, acceptance (as the case may be) of formal changes to the manuscript according to the rules, and partial transfer of copyright to the publishing house (use the official format).
2) **Completely** anonymized manuscript in accordance with the preceding rules.

All authors are to register on the OJS platform, even if only one of them will be in charge of correspondence. No author can submit two manuscripts simultaneously, with a penalty of not being able to participate in four consecutive editions (2 years).