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In the first chapter we present *Self-exploitation as a concept in the capitalism of the 21st century*, by CAMELO-AVEDOY, José Octavio, with adscription in the Universidad Autónoma de Nayarit, as a next article we present, *Tourism and energy: classical economics and the oximorum of sustainable tourism*, by, OSORIO-MOLINA, Francisco Manuel, with adscription in the Universidad de Córdoba, as the following article we present, *Alternative means of dispute resolution in the 21st century*, by REYES-MONJARAS, María Elena, ZALETA-MORALES, Lorena, ORTEGA-CORTÉS, Rosa Iliana and GÓMEZ-BARRERA, Valentín, with adscription in the Universidad Autónoma del Carmen, as the next article we present, *Designing the reward model in banking industry: an integrated ISM-DEMATEL approach*, by MIRHOSSEINI-VAKILI, Atena, SALAJEGHEH, Sanjar, SAYADI, Saeed and POURKIANI, Masoud, with advertisements at the Islamic Azad University.

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Self-exploitation as a concept in the capitalism of the 21st century

La auto-explotación como concepto en el capitalismo del siglo XXI

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Abstract

The publication exposes an approach to a little explored concept that has been called self-exploitation; basically it is the discussion of arguments from two visions that at times seem to converge and at other times diverge, namely: the more philosophical vision of Byung Chul H.; and a more economic vision, from Marxism, of the writer. The theoretical support used, to argue the vision of the author who writes, is the school of Marxist political economy; with a research approach from dialectical materialism, where some aspects of the history that the subject in analysis are taken up are taken up again. The objective is to present a proposal for the explanation of some elements of contemporary socio-economic reality, that which is gestated in the 21st century. It is the self-exploitation, from the vision of the writer, the expression of the evolution of the means of production, or as it is usually named: the 3rd industrial revolution and the 4th industrial revolution; as well as, for a state of collective ecstasy, for the idea of freedom, of everything, including work, something exposed for Byung Chul H.

Exploitation, Self-exploitation, Third industrial revolution, Fourth industrial revolution

Resumen

La publicación expone un planteamiento de un concepto poco explorado al cual se ha llamado auto-explotación; básicamente es la discusión de argumentos desde dos visiones, que en momentos parecen converger y en otros momentos divergen, a saber: la visión más filosófica de Byung Chul H.; y una visión más económica, desde el marxismo, de quien escribe. El sustento teórico utilizado, para argumentar la visión del autor que escribe, es la escuela de la economía política marxista; con un enfoque de investigación desde el materialismo dialéctico, en donde se retoman algunos aspectos de la historia que aborda la temática en análisis. El objetivo es exponer una propuesta para la explicación de algunos elementos de la realidad socio-económica contemporánea, aquella que se gesta en el siglo XXI. Es la auto-explotación, desde la visión de quien escribe, la expresión de la evolución de los medios de producción, o como suele llamarse: la 3ra y 4ta. revolución industrial; así como, por un estado de éxtasis colectivo, por la idea de la libertad, de todo, incluido del trabajo, algo muy expuesto por el filósofo Byung Chul H.

Explotación, Auto-explotación, Tercera revolución industrial, Cuarta revolución industrial

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Introduction

There is a phenomenon, and the beginning of a theoretical debate, about what has been called self-exploitation. Until now, attention has been paid to this process not because it is something unique and unprecedented in the history of capitalism, but because in today's capitalism, at the beginning of the 21st century, it has become more than evident as part of a manifestation of accumulation, for some, and of subsistence or survival for others. Indeed, at the present moment in history the concepts of exploitation, something they have called hyper-exploitation (which is no other house than the increase in exploitation in its relative and / or absolute form) and self-exploitation, a term that in years recent has begun to be in the theoretical debate, and although the social philosopher Byung Chul Han has mentioned it repeatedly in his books, in some very timid and in others with more precision, the truth is that in a veiled way many other theorists have left between the lines to see an insinuation on the matter, Samir Amín to mention some.

The theoretical framework that is taken up in the present is the Marxist political economy, although Marx never mentioned self-exploitation, he did leave a whole theoretical-philosophical construct that is the basis that shapes the reflections on the topic being addressed.

The objective that surrounds it, is to contribute and resume, the debate of self-exploitation as a category of reflection and analysis entered the capitalism of the 21st century, which is characterized above all by a change in the general conditions of capital accumulation, since that the so-called industry 4.0 (I-4.0) or the fourth industrial revolution, is modifying the accumulation pattern, and although, self-exploitation can be seen as a subsistence and survival mechanism in a capitalism that expels all amounts of force For work, the truth is that the same phenomenon also exists as a new capital accumulation mechanism on the border of I-4.0, and that does not mean that it is no longer self-exploitation; Before I-4.0, a capitalist paradigm shift is underway and it is necessary to start exploring the debate in that direction.

Given that it is not a case study or a laboratory study, but rather a reflection on the concept of self-exploitation, it does not handle hypotheses, and that the research approach used does not consider it, either by mistake.

The first section deals with the conceptual theoretical support that allows laying the foundations to be able to gradually expose the self-exploitation approach, which in the best of cases joins the theoretical body of evolution of the current of the Marxist tradition for the explanation of the economic and social reality of contemporary capitalism. A second segment is mentioned as a methodological framework, which presents the process and the construction of elements that explain the approach of the self-exploitation approach. In item three, the discussion of the above is carried out, as part of the process to arrive at presenting self-exploitation from the perspective of who writes. Finally, the conclusions section is displayed.

Theoretical support

In the Marxist tradition, a whole current of economic, philosophical, sociological and political thought is built, to say the least, from the analysis of the capitalist system, and to achieve this there are a set of concepts that provide sustenance to the mentioned school theoretical. A fundamental one is the concept of exploitation, which refers to the amount of work that the owner of capital appropriates from the worker, based on social production,

"In countries under the capitalist production regime, labor is never paid until it has functioned for the period specified in the purchase contract, at the end of each week. In other words, the worker advances the capitalist everywhere, the use value of labor power and the buyer consumes it, uses it, before having paid it to the worker, being, therefore, the one who opens credit to the capitalist" (Marx, 2010 [1867], p. 127)

This appropriation is also known as surplus value, which is equivalent to the amount of work that belongs to the worker but that the capitalist appropriates within the production process; 10 hours of work, manifested in a certain amount of production of merchandise, a quantity of coins, will always be equivalent to less than 10 hours of work, those given to the worker, and the rest of the hours worked are appropriated by the owner of the means of production, the capitalist.

"the formula $C = c + v$ that, when transformed into $C' = (c + v) + p$, transforms C into C' . We know that the value of constant capital is limited to reappear in the product. In other words, the value product that emerges in the process as something really new is distinguished from the value of the product preserved in that process; therefore, it is not as it seems at first glance $(c + v) + p$, which is the same, (410 pound sterling $(c) + 90$ pound sterling $(v) + 90$ pound sterling (p) , but $v + p$, or what is the same 90 pounds sterling, not 590 pounds sterling, but 180. ... We already know, in effect, that the surplus value is not more than the result of the changes in value that is operated in v , is that is, in the part of the capital invested in labor power; which, therefore, $v + p = v + \Delta$ (increase of v)" (Marx, 2010 [1867], p. 161)

In this regard, on exploitation, Amín (2001)

"In the industrial revolution, the means of production become a collection of equipment (machines and buildings) outside the scope of artisanal property. While the exploitation of labor [...] the team becomes the primary form of ownership. But still, over a long period, workers who had become factory labor were repositories of the knowledge required to operate the machines." (p. 66)

The issue of exploitation is the basic foundation of the capitalist system, without it, there would be no purpose to produce, not within the system in question, since there would be no surplus value that would be transformed into accumulated money, therefore the minimum wage level should be "the only necessary one is what is required to support the worker during work, and so that he can feed his family and the race of workers does not become extinct" (Marx, s / f [1930], p. 2); thus, the worker has as a constant axis, the sale of his strength and productive skills to capital, but as has already been said, this sale is also in credit towards capital, since the salary of what has already been worked is paid. In this regard, Amín (2001) reflects when he points out "when the human being in question defines himself as a factor of production or as a human resource, the recognition of the naive expression" resource for whom? For what? "Arises. (p. 16)

This is how exploitation develops in a differentiated way according to the historical moment of capitalism, in the sense of observing it in terms of rate, it increases according to the historical forms of capital accumulation. In a publication on Mexican neoliberalism Valenzuela (1997) states that

" Regarding the exploitation rate, for 1982 we can roughly estimate that it would have reached a level of the order of 236%. In other words, the ratio between the surplus and the necessary product would revolve around 2.36. By 1995, after thirteen years of neoliberal experimentation, the rate of surplus value had experienced a spectacular increase, as it amounted to 529%. The increase, from 2.36 to 5.29 is something very rarely seen in the entire history of capitalism. Consecutively, it is had that the hour value of the labor force would have gone from 0.30 in 1982 to 0.16 in 1995. It would therefore have been cut almost in half." (p. 28, 29)

The aforementioned, gives entry to observe that exploitation can be increased by different means, currently many writings mention it as -hyper-exploitation- that if it is analyzed more deeply, it can refer to something that Marx, from the 19th century, already referred to as - Relative and absolute capital gain-; for now, it is mentioned why conditions can increase the rate of surplus value, in this sense, Valenzuela (1997) is quite illustrative when he exposes the factors that intervene in this regard

"What factors explain the increase? Three factors influence the level of the rate of surplus value: I) the extension of the working day; II) the productivity of labor in the branches that directly or indirectly produce the goods that make up the basket of salaried consumption; III) the level of real annual salary." (p.29)

In the same respect, with the issue of the rate of surplus value, González (2005) explains that

"In the decline in the value of labor power, productivity growth plays a fundamental role. But as the productivity growth rate falls, the reduction of the real wage then becomes essential to act in favor of the decrease in the value of the labor force..." (p.64)

In this sense, reference is being made to relative surplus value and to a different way of characterizing surplus value, which has to do with the loss of purchasing power of wages.

The previous quote shows certain conditions under which exploitation increases; When references are made to the extension of the working day, they speak of obtaining a higher rate of -valuation in an absolute way-, through which the volume of production of the merchandise increases, but the wage of the worker remains constant, Thus, there is an increase in the rate of capital gain. However, the same quote from Valenzuela (1997) also refers to the increase in productivity, even though the workday may remain constant, whether the increase is due to a new applied technique or the development of the productive forces. , the result would be the same, a greater quantity of production, under the same amount of salary and the same working day, thus reaching an increase in the rate of surplus value through productivity, is then a relative surplus value-

" In his theory, Marx points out that the value of labor power is equivalent to the value of a given quantity of means of subsistence, and that the worker produces a value of the same magnitude in a fraction of his working day. Such a fraction is called necessary work time, the other part of the day is excess work and gives rise to profit. Hence the tendency to reduce the necessary work time." (González, 2005, p. 64)

Various writings on productivity mention that there is a process of hyper-exploitation, which may or may not be correct, the reality is that reference is made to obtaining absolute or relative surplus value, if you want to call it hyper-exploitation, because they point you out as you like, but the scientific explanation was offered by Marx in the 19th century.

Now, in the capitalism of the 21st century, there is a concept that begins to have a presence in the theoretical debate, reference is made to the concept of - self-exploitation-, exposed more insistently by the philosopher Byung Chul Han (2013 [2012], 2014 [2012], 2016 [2010], 2016 [2014], 2017 [2014]), in different works, in some of them in a very timid, and even imprecise way, but in the work "Psicopolítica" is where he does a fairly mature contribution to the concept

"This transition from subject to project is accompanied by the feeling of freedom. Well, the project itself is shown as a figure of coercion, even as an efficient form of subjection subjectivation. The self as a project, which believes that it has freed itself from external constraints and from the constraints of others, submits to internal constraints and to its own constraints in the form of constraint to performance and optimization (...) the subject of performance, which purports to be free, is actually a slave. An absolutist slave, to the extent that without any master he exploits himself voluntarily, does not have before him a master who forces him to work" (Byung-Chul, 2017 [2014], p.11,12)

But the analysis of the issue of self-exploitation must be qualified in current capitalism, where the conditions of capital accumulation demand greater productivity, that is, by manipulation of consciousness or by the shortening of production cycles, entering a terrain self-exploitation, which is even more demanding than self-exploitation itself.

"The greatest success of current capitalism has been having a process of self-hyper-exploitation of the working and scientific class and keeping ourselves happy thinking that we are hyper-productive and that the world could not exist without us and our work; something we might well call hyper-egocentrism" (Camelo, 2017. p s/n)

The previous quote is contextualized in a previous paragraph that exposes the conditions of how such a condition is reached in current capitalism

"The development of the productive forces has had an advance never expected, or rather unsuspected, in the last 120 years. But this by itself does not generate the conditions under which the current economy develops, but, to achieve the volume of consumption, due to the increase in the volume of production, disciplines such as: Marketing, administration, accounting, specialty, computer science, market-oriented psychology, etc. These disciplines that I point out, eventually, would not have evolved or been born if it had not been for the acceleration of the production cycle and the need to shorten the cycle of capital accumulation." (Camelo, 2017, p. s/n)

"This development of the productive forces, which we also have to evolve the concept, because analyzing the category, bio-science may well enter there, the acceleration of egg production (a hen can lay 5 to 7 eggs a day and without cock), for example, is the acceleration of production and this generates the need to accelerate all other cycles that allow the acceleration of capital accumulation, something known as hyper-accumulation, it even had to be modified the conception, consciousness, of the world population to adapt our consciousness to the new reality of hyper-accumulation; therefore, likewise, the social relations of production; nor how to deny what Marx points out when he says: -Consciousness is determined by materialism. That is to say, that the society of the eighteenth century and the society of the twenty-first century have a physical resemblance, but not a conscience; affirming that: Society is a driver and a product of itself." (Camelo, 2017, p. s/n)

Byung-Chul (2016 [2010]) makes a narrative about self-exploitation that clearly illustrates the topic in question, noting that

" The myth of Prometheus can be reinterpreted considering it a scene of the psychic apparatus of the contemporary performance subject, who violates himself, who is at war with himself. In reality, the subject of performance, believed in freedom, is as chained as Prometheus. The eagle that devours its ever-growing liver to its alter ego, with which it is at war. Thus seen, the relationship of Prometheus and the eagle is a relationship with himself, a relationship of self-exploitation." (p.9)

of the appointment, the concept of self-exploitation, in its early and embryonic phase, must be rescued; beyond its non-economistic, but more philosophical character. But to correct an eventual complaint about this fact, it is possible to reflect, perhaps the categories of Use Value and Exchange Value do not come from the contribution of Aristotle? Or even Karl Marx's own contributions do not also arise from philosophy?

Here, the writer, considers, in agreement with Marx, Amin, Singer, even Keynes, and others, that the economy is NOT pure, but also political; but even further, economics, in addition to politics, should not be seen as mainly technical, but also philosophical, because the economy will always be covered by a philosophical section, even though some neo-classical economists are not aware of it, because the philosophy in this current is hidden, by technicality, it is the philosophy of the benefit of a few over the life of a few.

Although Byung-Chul for the year (2016 [2010]) already stated clearly the approach of self-exploitation, but it does not end by defining whether said self-exploitation was due to self-imposition of increasing performance, without the need to nobody asked it, for an excess of positivity; in turn, it does not end by pointing out that the productive activity is stripped for a third party; arriving in such a way, only to a manifestation of increased productivity of their own free will (due to an excess of positivism translated into self-violence), without the need for their capitalist exploiter to request it, that is, to the relative surplus value.

"The performance subject is free from an external domain that forces it to work or even exploits it. He is the owner and sovereign of himself. In this way he is not subject to anyone, rather, only himself. In this sense, it differs from the subject of obedience. The suppression of an external domain does not lead to freedom; rather it makes freedom and coercion coincide. Thus, the subject of performance is abandoned to the freedom required or the free obligation to maximize performance. Excess work and performance sharpens and becomes self-exploitation. This is much more effective than exploitation by others, as it is accompanied by a feeling of freedom. The exploiter is at the same time the exploited. Victim and executioner can no longer be differentiated. This self-referentiality generates a paradoxical freedom, which, due to the structures of obligation inherent in it, becomes violence." (p. 32)

Byung-Chul (Op. Cit) closes this paragraph by pointing out that "The psychological illnesses of the performance society are precisely the pathological manifestations of this paradoxical freedom" (p. 32).

Note that the concept of self-exploitation is clearly exposed by Byung-Chul, but for that moment of his philosophical contribution, it is, in depth, somewhat different from the same concept that Camelo (2017) exposes to refer to exactly the same concept of self-exploitation

"Because with a micro company you do not exploit anyone but yourself, and without hope of accumulating wealth for your old age, and without social security for your retirement (...) the belief that you are an entrepreneur because you have a micro business, and that absurd thing of the concept of Human Capital, they are not more than forms of manipulation of the collective conscience (...) equally divided in the collective of the exploited because some think they are micro entrepreneurs for being exploiters of themselves, but no longer they are working class; and within the same working class how to organize if there are those who live in the absurd and crazy illusion that they are holders of Human Capital" (Camelo, 2017, p. s/n)

Note that the previous quote, Camelo (2017), is clearly from a perspective of the concept of exploitation from the Marxist tradition; that is, the exploitation of capitalist man towards working man, this is Marx's approach, is exposed in the quote, but with an analytical transition, thus arriving at the exploitation of: capitalist man of himself, by himself; that is to say, exploited for itself. Thus, coming to the exploitation of: man of himself, exploited for himself. Note that this is NOT a voluntary and free approach to relative or absolute surplus value; that is to say, it is not a voluntary self-exploitation, due to excess positivity, for a capitalist third party.

However, Byung-Chul (2017 [2014]) already exposes with great maturity, in the evolution of the concept, from Marxism. "Neoliberalism, as a form of mutation of capitalism, turns the worker into an entrepreneur. Neoliberalism, and not the communist revolution, eliminates the working class subjected to the exploitation of others. Today each one is a worker who exploits himself in his own own company." (p.17)

Methodological framework

Research that is circumscribed in the conceptual theoretical field, from the Marxist school of political economy that uses sustenance to contrast and contribute to the construction and debate of the concept of -self-exploitation-; with a materialistic dialectical approach, where the historical process is taken up specifically of what the subject of analysis requires. The objective is to contribute to the debate of concepts that allow explaining the new socio-economic realities related to the exploitation of labor, through what has been titled - self-exploitation-; as well as re-thinking and re-constructing the original idea, from whom this publication writes, on the topic being addressed.

In the year 2016-17, the writer, begins to reflect on the new forms of employment in Mexico, but conceiving the approach as a systemic condition of capitalism; from the above, he publishes some small essays on something that he called self-exploitation; This self-exploitation was already clearly focused on the Marxist trend, but analyzing the so-called micro-companies (so called in Mexico), where some of them are basically self-employment, for itself, without any employee and therefore with no one to exploit more than himself; there arises the idea of calling this form of micro-business self-employment self-exploitation.

This analysis was exposed in two informal debate publications in Tepic, Nayarit; Mexico. Some occasion was exposed and discussed with some professors of the Faculty of Economics of the Autonomous University of Nayarit, but that evidently was not understood, not how the writer of these lines conceived it; possibly due to a lack of discursive expertise, to explain it in greater detail, or because the teachers were very pigeonholed in the classic Marxist concept of exploitation.

In the year 2018, the one who writes, finds himself for the first time with the concept of self-exploitation published, by a different author, in an electronic newspaper, El País, by an author named Byung Chul Han.

From then on, we looked for the different, and very proliferating, publications, of the cited author, referenced to the subject of self-exploitation, we continued to read several works of the mentioned author, and we observe some things: that it is a concept that has been working since, at least, since 2014, but which does not address it directly and specifically, but rather quotes and tangentially reconstructs it in some page (s) of his books, and where he refines and evolves the concept through publications. The author's approach arises from a philosophical analysis of current society and its ways of development, that is, the evolution of the concept from this vision comes more from a philosophical construction, rather than an economic one; It is worth mentioning that he is not unaware of Marx's proposal, and even in his book "psychopolitics" he makes direct reference to him on the classical idea of exploitation, but it is not common in his publications. It should be noted that, as a good philosopher, Byung Chul Han's publications are more than invitations to reflect on contemporary society and its dynamics; He is, without a doubt, one of the best social philosophers of today, both for the depth of his novel reflections on today's society, and for the way he transmits them.

It is the two previous written events that trigger the decision to write directly and on time about the concept of self-exploitation; expose the phenomenon, build and present the arguments that support it, from the perspective of the author of this publication; as well as, contrasting the differences and coincidences of the concept, from the perspective of the two authors who are exponents of it, namely: Byung Chul vs. The author of this.

From the perspective of who writes these lines, it is to make a transition from exploitation seen as a scheme where:

$$F(M):[Ex=(O+Pp)\rightarrow Vcm\rightarrow Vcm/(O+C)] \quad (1)$$

Where:

F (M) = Depending on the market.

Ex = Exploitation.

O = Worker.

Pp = Production process.

Vcm = Exchange value of merchandise.

O + C = Worker plus Capitalist.- It does not mean that it is divided equally; assuming that the sum of (O + C) is 2, there is a multiplicity of possible capital gains rate combinations: $(1/4 + 3/4 = Vcm)$ or $(1/5, 4/5 = Vcm)$ or any other.

The 2 refers to the worker and the capitalist, who are the parts in which the exchange value of the merchandise sold in the market is divided. For the capitalist it represents the payment for the use and wear of the means of production, plus the rate of profit, which represents the amount of surplus value. For the worker, it represents the payment of the sale of his labor force, to acquire the means of subsistence and recovery of his productive force. This is the classic way of understanding the approach to exploitation, from the Marxist school. (See the book: Capital I)

But what is sought to argue and expose, is how to move to self-exploitation.

That is to say:

$$F(M):[Ex=(O+Pp)\rightarrow Vcm\rightarrow Vcm/1] \quad (2)$$

Where 1 represents, by definition, who produces and keeps the exchange value of what is produced; and he is, in turn, the owner of the means of production. But, the production is sold in the market; that is, it is a commodity.

Discussion

Self-exploitation as a concept

Keeping this self-exploitation approach in mind is seeking to understand the capitalism of the late twentieth century and the beginning of the twenty-first, in the neo-liberal period in Mexico and the world, with changes of various kinds from the third industrial revolution, or the revolution informatics, computing and New Information and Communication Technologies (Ntic's) in general; where new forms of accumulation appear, or modifications of the previous one, represented by the period of heavy industry; In economics, one cannot think that there is a rigid and immovable transverse line to expose periods of advance of the productive forces, a co-existence of different production technologies is carried out during a period of transition, until the predominance of a certain one, without implying the extinction, completely, of the previous ones.

In the techno-economic debate it is said that the fourth industrial revolution has been entered, although it has not yet been solidly accepted; more and more, this possibility becomes more and more accepted, there are still theorists who do not accept it as such, but as an evolution of the technologies of the third revolution; The writer considers that it is precisely the period of transition that generates this divergence of opinions; Although, as of today, in the year 2020, there is non-acceptance of the fourth industrial revolution, but rather something like a second version of the third industrial revolution, who writes considers that in a few years, as it is more established the use and impacts of contemporary advances, it will be seen as the fourth industrial revolution.

	Approximate periods	Base or protruding elements used
First Industrial Revolution.	It starts from 1755-65 to 1830-45.	Steam and coal as productive and transport forces, the birth of statistics.
Second Industrial Revolution.	It starts from 1830-45 to 1960-70.	Electricity, oil, steel, metallurgy and mass use of statistics in the State and companies.
Third Industrial Revolution.	It starts from 1960-70 to 2010-17.	Electronic circuits, informatics in the State and companies, new information and communication technologies (Ntic's), internet, automation of things, computing (hardware and software, tools, seen separately).
Fourth Industrial Revolution or Industry 4.0 (I-4.0)	Starts 2010-17 to present.	Internet of things (hyper-connectivity), big data, virtual reality, augmented or augmented reality, nanotechnology, techno-medicine, techno-biology, 3rd printing. dimension, the artificial intelligence of things, the automaton of things. The 5G Network.
Note: The periodization of the industrial revolutions, proposed here, is built from the emergence, as a technological milestone, of the base or outstanding elements in each of the indicated industrial revolutions; therefore, a transition period is left for the beginning and end of each time referenced to each industrial revolution.		

Table 1 Periods of the industrial revolutions in the world and their base or outstanding elements

Source: *self made*

That idea that the worker is only exploited by the capitalist, and stripped of a quantity of work, surplus value, through the surplus, ceases to be an axiomatic truth of the mid-nineteenth century and the beginning of the twenty-first, to become one of the different forms of exploitation "The fact that workers do not use the means of production for themselves" (González, 2005, p. 65) this reasoning must be made more flexible in order to accept new forms of exploitation, such as the one coined in this document as self-exploitation.

The historical moment through which humanity passes requires the evolution of concepts, although self-exploitation has existed in different nuances, including in the steel and oil industry, but the proportion and exponential growth of self-exploitation it occurs with the arrival of the third industrial revolution, the computer industry and the Ntic's, and is further accentuated with the arrival of the recent incursion into the fourth industrial revolution or I-4.0., which is characterized by Internet of things, big data, virtual reality, expanded reality, nanotechnology, techno-medicine, techno-biology, artificial intelligence, the automaton of things.

In the face of such reality, concepts have to evolve, including those of the Marxist school, in order to explain reality, and not seek to adapt reality to a theoretical scheme so that it can submit reality to a model; something as questionable as thinking that all economic elections are entirely rational.

It is then, self-exploitation, the activity of exploiting itself; that in which it engages, its productive force, to be able to generate a commodity for social demand, while being the owner of the means of production required for the elaboration of the merchandise in question; neither can it be indicated as an artisan, although they are not excluded, since they also participate in the economic branches where the application of technologies, from the third and fourth industrial revolution, to carry out their productive activity.

Some of these technologies, which are relatively easy to access, and which in turn allow them to be used as means of production, falling on various occasions in what has been called -economy from knowledge-, where the 3rd tool or 4th. Industrial revolution allows the expression of knowledge, of the self-exploited, whether in the form of software or reprogramming of some hardware, where a third party, a natural or legal person, acquires the service sold by the self-exploited; being this way, striving for the culture of productivity, even in the same sense of being a self-exploited being, which leads him to demand the highest productivity from himself, even in his character of being the owner of the means of production. from your own farm.

Said self-demand to be mostly productive, and being himself the owner of the means of production, whether it be through the extension of the working day, self-imposed, and / or whether through the acquisition of a new, more sophisticated means of production which allows him to increase production, his own production as a worker of himself, something very common in the 3rd and 4th RI with the dizzying advance of technological updates, leads, in the Marxist tradition, to relative and absolute surplus value; Although in this case it is considered that the term of surplus value does not fit, proper in the Marxist tradition, but the logic of the categories is considered if it is preserved; that is, the increase in production through an extension of the working day or through the development of the productive forces.

The foregoing, is something that in 21st century capitalism becomes more and more common to see, people alienated by the idea of freedom, refuse to be employees of a third party, and this is how with the ease of New 3rd and 4th RI technologies allow full production flexibility; It is not required to be in a specific physical space to produce, nor is it required a rigid schedule to be able to produce, it is not required to be listening to the complaints of a foreman or production manager, nor is it required to be in a particular country, among other characteristics of capitalism at the beginning of the 21st century; This is due to the facilities of connectivity -internet and mobile telephony-, transportability of the new means of production -new technologies-, to mention some conditioning factors.

Self-exploitation is within the reach of any workforce, expressed in the form of arms and brains, that has access to current technology, as accessible as a smartphone or a computer, where the phone is no longer a means of communication. to become a means of production, due to the set of applications and other software with which it is equipped, and where updates to said software are as easily accessible, as being at a Wi-Fi point and paying a few pesos, or other currency, for the update or acquisition of new software, thus having the update of the means of production of self-exploitation; similar case happens with the computer. It is the sublimation of the idea of freedom and the ease of mutating new technologies to productive forces, even a smartphone or as they call it "Smart phone", is what makes self-exploitation a reality that has come to establish itself with a swaying force in 21st century capitalism.

"the bourgeoisie cannot exist except on the condition of incessantly revolutionizing the instruments of production and, consequently, the relations of production of the old mode of production was, on the contrary, the first condition of existence of all the preceding industrial classes. A continuous revolution in production, an incessant commotion of all social conditions, a restlessness and a constant movement distinguish the bourgeois era from all the previous ones." (Marx, 2017 [1848], p. 25)

What is experienced in current capitalism is a stage of co-existence of various ways of production. Industrial and manufacturing are still in force, with their nuances adapted to the 21st century; but, in turn, it co-exists with this new way of production, through self-employment, but which only employs itself, which leads to self-exploitation.

It is important to highlight that the approach that has been exposed, by the author of these lines, as self-exploitation, has nothing to do with that absurd intellectual confusion of considering self-exploitation as the productive self-demand to increase production to benefit of the greater surplus value that the owner of the means of production appropriates, through relative and / or absolute surplus value, the third capitalist, who continues to be in the classic logic of exploitation that Marx (2017 [1848]) exposes "the exploitation of each other" (p.40), regardless of whether it is due to excess positivity or self-demand, continues to be in the classic approach of exploitation; which is something very different from what the author of this work has exposed throughout it.

In short, it has been transited from:

$$F(M):[Ex=(O+Pp)\rightarrow Vcm\rightarrow Vcm/(O+C)] \quad (1)$$

To

$$F(M):[Ex=(O+Pp)\rightarrow Vcm\rightarrow Vcm/1] \quad (2)$$

Conclusions

Here it is worth noting something, the phenomenon of self-exploitation is not totalitarian in the capitalist system, at least not from the point of view and argumentation of this writing; from this, then, the system shows a set of possibilities of exploitation, read in the traditional approach of the Marxist school, of man by man; or, from the approach that is exposed, argued and built in this publication, the exploitation of himself for himself. With the aforementioned, it is desired to make explicit that the idea is not shared that in current 21st century capitalism there is only self-exploitation as a way of, in some cases, trying to accumulate capital, this position is not shared, suggested by Byung Chul Han, simply and simply because empirical evidence, throughout Latin America, shows the co-existence of classical exploitation and self-exploitation, it is considered incorrect to generalize by reaching absolutism

"Hardt and Negri build their model of theory on the basis of historically superseded categories, such as classes and class struggle (...) the violence that arises from the global empire is interpreted as the power to exploit others (...) talk about Classes only make sense within a plurality of classes. And the truth is that the crowd is the only class. All those who participate in the capitalist system belong to it. The global empire is not any class that exploits the crowd, because today each one exploits himself, and he figures that he lives in freedom. The current subject of performance is both actor and victim. Without a doubt Hardt and Negri do not know about the exploitation itself, much more efficient than the exploitation by others. In the empire properly nobody governs. He constitutes the capitalist system itself, which covers all. Thus, today an exploitation without denomination is possible." (Byung-Chul, 2016 [2014], p. 30-31)

As previously stated, the self-exploitation approach set forth in this document is that of self-exploitation by itself. That exhibition that many have interpreted, and in which even Byung-Chul himself has suggested in his books, about a so-called self-exploitation by a form of self-demand to produce more; it is wanted to make clear that this is not, from this vision, self-exploitation, that arrives at a form of relative and / or absolute surplus value, but it is still being exploited by a third capitalist, that is, a classic form of exploitation from the Marxist school; therefore, this approach is nothing new and much less novel, if perhaps the elimination of the class struggle by the alienation of self-demand, but that is even incorrect in the total world reality, the class struggle is still present in many expressions of the working class. In the same way, it is made explicit that it is not a historically superseded category, it is enough to turn to any developing country and even forms of exploitation similar to the original accumulation will be found; what exists, then, are co-existences of forms of exploitation, which an effort must be made to explain them; they become more or less clear, according to the evolution of the capitalist system.

Self-exploitation has come to stay in 21st century capitalism, both for the facilities to achieve it, in terms of the means of production to establish it, and for the social alienation for freedom as a false form of self-realization, freedom of everything and everything, without measuring or reflecting, is the irresponsible use of these "liberties".

Paraphrasing Byung (2017) The current subject pretends to be free, but in reality he is a slave voluntarily, while he exploits himself voluntarily.

Despite the fact that the writing does not indicate the conjuncture of the historical moment of the Covid-19 pandemic, it is necessary to mention that it has served as a catalyst to make a deep and extensive expansion of self-exploitation. Convinced of this, he ensures that this conclusion will leave its mark, in the empirical evidence, in capitalism of the 21st century.

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Tourism and energy: classical economics and the oximorum of sustainable tourism**Turismo y energía: economía clásica y el oxímoron del turismo sostenible**

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Abstract

Tourism activity is one of the most important economic activities globally, but due to its complexity, its study should not be based solely on an economic perspective. A systemic and multidisciplinary vision is necessary to understand and clarify the problems this tourist activity presents. Introducing inevitably, in this systemic vision, the energy variable hitherto hidden, that supports and allows the development of tourism activity in the search for a real sustainability. Since this imposed reality, whose greatest exponent is monetary reductionism, leads us to ignore the resources that really are the essential support of tourism, and ultimately, of any anthropological activity.

Energy perspective, Monetary reductionism, Real sustainability

Resumen

La actividad turística es una de las actividades económicas más importantes a nivel global, pero debido a su complejidad, su estudio no debe sustentarse únicamente a través de una mirada económica, sino que es necesario una visión sistémica y multidisciplinaria para comprender y dilucidar las problemáticas que esta actividad turística presenta. Introduciendo inevitablemente, en esta visión sistémica, la variable energética hasta ahora oculta, que soporta y permite el desarrollo de la actividad turística en la búsqueda de una sostenibilidad real y no impostada. Ya que esta realidad impostada, cuyo mayor exponente es el reduccionismo monetario, nos lleva a obviar los recursos que realmente son el soporte esencial del turismo, y en definitiva, de cualquier actividad antropológica.

Variable energética, Reduccionismo monetario, Sostenibilidad real

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Introduction

The tourist activity is one of the most marked activities in the last decades at a global level. So much so, that it is even cataloged as the engine of development and growth of an immense number of Nation-States on the planet (UNWTO, 2016: 2). Which cannot surprise us, if we approach its most remarkable economic figures. To highlight, both its contribution to the world gross domestic product, as well as employment and investment at global levels. Being in 2019, this tourist activity, responsible for 10.3% of the world Gross Domestic Product and setting a new record in terms of the number of jobs dependent on the activity. Number of jobs that managed to reach the not inconsiderable amount of 330 million, which finally translated into 10% of global employment (UNWTO, 2019: 1). Also presented are direct investment figures that reached 882.4 trillion dollars (OMT, 2019: 7).

Parallel to the increase in the economic importance in the global production of tourism activity, the study of it by the Spanish academic field has also increased (López-Bonilla; Granados-Perea and López-Bonilla), pointing out in recent years years, the high level of systemic complexity that the tourist activity presents in its study, and which implies that the only way to make a correct approach to it is through a global, multidisciplinary and systemic vision that caters to multiple actors, factors and conditioning factors that go from planning to final development and consumption (Jafari 2005). All this, in order to understand, the huge synergies, relationships and interdependencies that originate between the tourist activity and the rest of the anthropological activities that, simultaneously, are generated and fight to dominate the spaces / territories (Cabrerizo 2016; Morell y Membrado-Tena, 2018; Zaar and Pontes da Fonseca 2018), in our current and complex societies; characterized by their multifaceted liquid modernity (Bauman: 2016) and where urban happiness (Muñoz and Martínez 2020) is conspicuous by its absence, as a consequence of more than a decade of stagnant wages and increased inequality (Bizberg, Morayta and Mabire: 2020). But if we do not undertake this task, and only use the myopic glasses that monetary reductionism offers us (Bendodo, Fernández and Sánchez, 2019), we run the risk of overlooking the real value of the natural resources that support the activity itself, such as are the energy flows and the material funds.

Which, although they are the substantial thing in terms of the sustainability of the tourist activity, as happens with any other anthropological activity, monetary blindness, gives it a meager crematistic value (Delgado, Reigada, Soler and Pérez: 2015); as also occurs with work activities that are related to care (López and Medina: 2020) and that are necessary for the development of tourism activity.

So, currently, and from an academic and / or professional point of view, we are approaching the tourist activity attending to a quasi-systemic vision that encompasses multiple edges such as: the economic, the labor, the social, the cultural, the tax, the space and the environment.

But in no case do we attend to the gigantic consumption of fossil energy natural resources necessary as a prerequisite to carry out the activity. Which is somewhat surprising, since if we attend to the very definition of the concept of tourism, regardless of the organ, entity or author to which we go for it, we will find that tourist activity is an anthropological and spatial activity that takes place in a space / concrete territory. Or expressed in another way; Tourism is a human activity that inherently involves a movement from point A (sending territory) to point B (receiving territory). So the impossibility of separating the variable displacement from the concept of tourism itself, is something evident and ultimately fundamental.

This phenomenon translates into the need to maintain an upward consumption of net energy from fossil natural resources, in order to sustain the increasing rate of both tourist activity and its associated and necessary auxiliary activities for the development of the activity. (infrastructures, communications, capital goods, etc.), at the current times of decrease in terms of fossil energy natural resources in which we currently find ourselves, after having exceeded the peak of production of conventional oil by 2006, (IEA 2010 at: 122). Which leads us to ask ourselves questions such as the following:

- Are the forecasts of the World Tourism Organization (UNWTO), consistent with exceeding the figure of 1.8 billion international tourists in 2030, feasible from an energy point of view (UNWTO, 2011: 15)?

- Can tourism be the engine of growth and development of the vast majority of the Nation-States of the planet (UNWTO, 2016: 2), taking into account the scenario of absolute (biophysical), not relative (economic) energy scarcity, which is Presents us today and that foreseeably, will be more in the next decades ?.
- Is there an energy substitute for fossil natural resources that allows us to continue increasing the level of tourist (and economic) production and consumption, globally at constant rates as until now? (Prieto & Hall, 2012).

These questions, which very possibly, cannot be answered, without observing a few basic concepts of both physics and economics.

Energy

The Dictionary of the Royal Academy of the Spanish Language defines the term energy as follows:

- Efficacy, power, virtue to act.
- Ability to perform work. It is measured in joules.

Taking into account both definitions, we can check how energy is a force that allows us to do some type of work (perform an action), being able to classify the types of energy that humans can use into endosomatic energy, which is the energy obtained through from food and solar radiation, and that is generated in the human body, and exosomatic, which is that energy produced outside it. But regardless of whether this energy, whether endosomatic or exosomatic, in both cases, attends to unalterable physical concepts that act as biophysical patterns and limits, called the laws of thermodynamics.

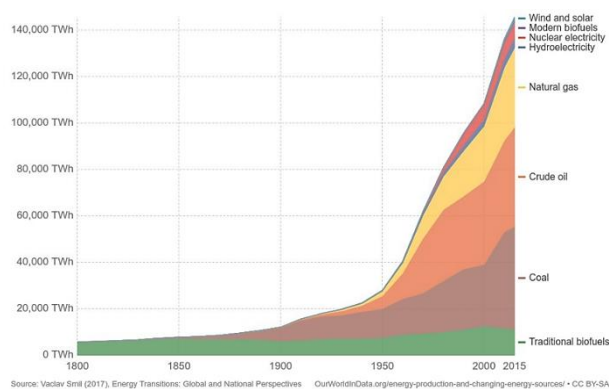
The first law of thermodynamics, known as the law of conservation of energy, states that matter and energy cannot be destroyed or created. (Müller 2002: 165). While the second law, also called the law of entropy, stipulates that as long as there are no external sources of energy, entropy always increases.. (Müller: 2002:181).

In keeping with this first law of thermodynamics, economic activity does not create or destroy matter or energy.

What is done through the economic process, is to absorb and expel, matter and energy. Being the difference between what enters the economic process, and what comes out of it, a difference not quantitative, but qualitative. Matter and energy enter the economic process in a state of low entropy and leave it, in a state of high entropy as it follows from the second law, meaning that energy is dispersed and degrades (Van Hauwermeiren 1999: 51).

Throughout history, societies have used different energy sources, attending to multiple variables such as: their technological level, their entropic level or simply attending to their energy needs (the number of individuals of which they were composed and their level of complexity). Thus in forage societies a reduced amount of energy was needed, since they presented a low specialization, and therefore, a meager need when it comes to a social organization to sustain themselves. On the contrary, in an agrarian society, a greater amount of energy is required, as well as a greater specialization and a more complex social organization. (Fernández-Durán and González-Reves 2014: 21). This explains that the collecting societies basically survived through the direct solar energy collected from the fruits through their collection. While forage societies (hunter-gatherers), being more complex societies, required both direct solar energy and indirect solar energy, stored in the meat of animals. (Gowdy 1998).

With the arrival of industrial economies, the main energy source ceases to be solar energy (direct and / or indirect), turning fossil natural resources into the primary energy source, this being possible, thanks to the technological improvements that They led to access to fossil fuels through resources such as coal, oil, natural gas, and uranium. Conforming in this way, a substantial change both in the historical energy pattern, and in the economic / political and social model / paradigm, (Hall & Klitgaard 2018: 7) thus giving birth to a new society such as the industrial one, which quickly passes from having to live With the energy limitations of solar energy, to access all the energy stored on Earth for thousands of years in the form of fossil natural resources. (Van Hauwermeiren 1999: 54). In the following Graphic we can visualize the depth of what this drastic change from an energy point of view has meant for industrial societies and their heirs. In it, the world consumption of primary energy is represented in terawatt hours, differentiating between the different energy sources, on a time scale between the years 1820 and 2015.



Graphic 1 World consumption of primary energy in Twh, 1800-2015

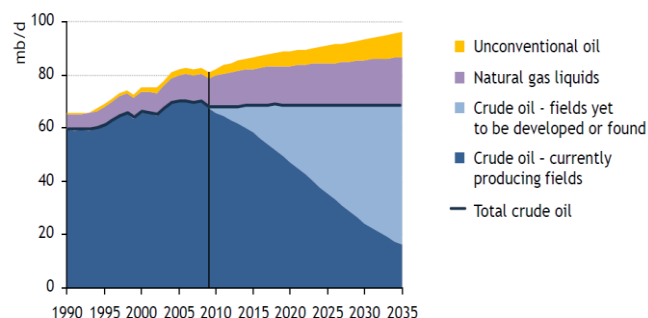
Source: Vaclav Smil, *Energy Transitions: Global and National Perspectives* (2017)

This new situation of quasi-unlimited access to energy presents a double problem. Being the most notable, the situation that occurs due to the unrestrained exploitation of the fossil natural resources on which tourism activity in particular (and the economy in general), is totally dependent, exceeding its replacement rate; which is practically nil, since millions of years are needed for the formation of these fuels, as well as very specific and particular geological characteristics. (Hall 2017: 39-42).

When this inevitably happens sooner or later, we will find ourselves at a point where these fossil natural resources are dwindling, causing a decrease in the amount of net energy they can generate to meet the needs of our growing and increasingly complex societies, while at the same time, there is an increase in the cost of extraction, transport, transformation and refining, both energy and economic, of the aforementioned resources. Thus generating a situation, in which increases in the rate of exploitation of these fossil natural resources, cause the decrease in terms of the amount of net energy that these fossil natural resources finally contribute to our societies. (Murphy & Hall 2011).

Fact, which greatly affects all anthropological activities intensive in energy consumption, such as tourism. Presented this in the end, a clear and evident cost of energy opportunity with other intensive activities in natural energy resources and fundamental for our societies and ways of life, such as those derived from the primary sector, those included in the global agricultural complex and global freight transport.

We are currently immersed in a more than worrying energy situation. The International Energy Agency (IEA) itself, an international body created by the Organization for Economic Cooperation and Development (OECD) after the 1973 oil crisis and whose purpose is to coordinate the energy policies of its member states, with In order to ensure reliable, affordable and clean energy to their respective inhabitants, he accepted this fact outright, recognizing in his 2010 annual report (IEA 2010), that the peak of production of conventional oil had already been reached in 2006.



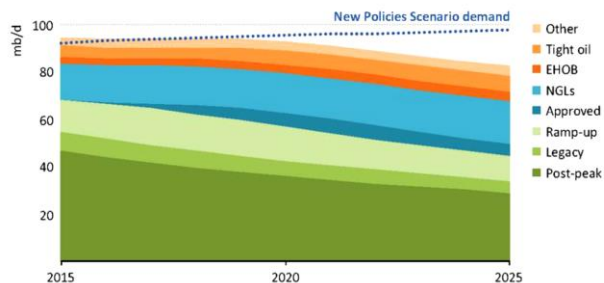
Graphic 2 Prediction of global oil production in the New Policies scenario 1990-2035 (in millions of barrels / day)

Source: *World Energy Outlook 2010. I.E.A. Figure 3.19*

As can be seen in the previous Graphic, the number of barrels of oil that are estimated to contribute to the oil fields currently in operation, (dark blue color), to the global production figure, reached its peak in the year 2006, producing a rapid and constant decline in subsequent years.

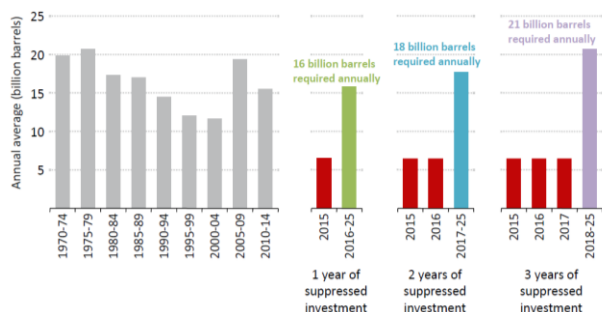
Which, surprisingly, would not affect the total production, since this decrease in the production of the current fields, will be compensated by the very optimistic contributions that the IEA presents, from the fields to be discovered (light blue color), together with the new deposits approved and put into operation (gray color). Strategy used on a recurring basis by this international organization.

Already in subsequent years, the following reports from this institution have confirmed the deepening of the energy crisis in which we are immersed. Thus, in the World Energy Outlook of 2016 (IEA, 2016 a), in its figure 3.16, the IEA, taking into account its short-term predictions, shows that there is going to be a significant gap in terms of supply and world energy demand in the time period between the years 2015-2025.



Graphic 3 Forecast and demand of global oil supply differentiating between sources, 2015-2025 (in millions of barrels / day)
 Source: World Energy Outlook 2016. I.E.A. Figure 3.16

In 2016, this gap was valued by the IEA at 18 million barrels / day, which meant a difference between demand and global energy production of 18-20% by the end of 2025. Conjunctural difference, which It would be eliminated according to the IEA's own forecasts, putting into operation in successive years a greater number of deposits found, together with the new deposits put into operation, shown in the following Graphic.

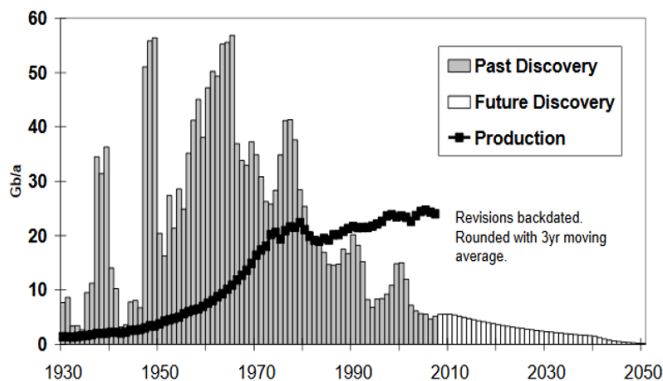


Graphic 4 Total projects to discover and approve fields to cover the gap between supply and demand by 2025 (in billions of barrels / year)
 Source: World Energy Outlook 2016. I.E.A. Figure 3.17

But as can be inferred from the previous Graphic, in order for the approved projects for new crude oil fields to close the gap produced between demand and supply in this scenario of new policies, new oilfield projects would have to be approved at constant rates, and historically never seen, except for the punctual period between the years 1975-1979 of overproduction in order to recover production after the second oil crisis; which was a highly improbable circumstance.

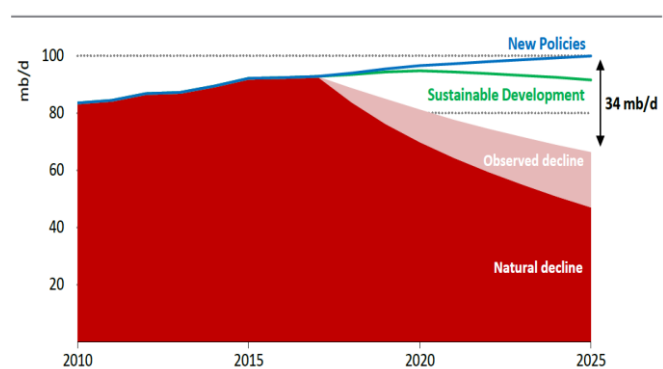
To glimpse the level of optimism they had regarding the level of discovery of new deposits, the past predictions of the I.E.A., we will use the chart presented by Holter in his latest study: “Oil discoveries at 70-year low signal supply shortfall ahead.

Bloomberg “The year ahead”, in which we can observe the global history of deposits found (in billions / year of barrels) and its future prediction.



Graphic 5 Global history of crude oil deposits found, future forecast and production level, (in billions of barrels / year)
 Source: Holter, M., 2016

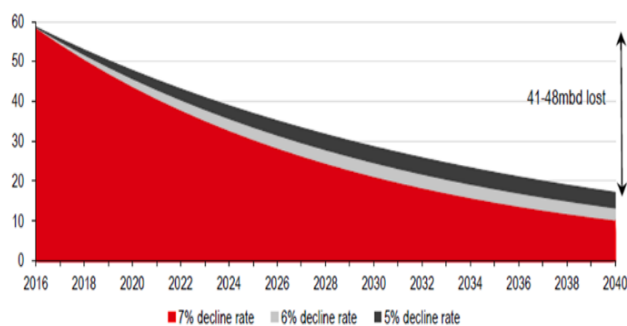
On the other hand, in November 2018, the IEA published its new annual report (IEA, 2018), where and as expected, we can see that the gap predicted in 2016, far from having been corrected with the new reservoirs found and put into operation, has been increased to a very worrying amount of 34 million barrels / day. Widening the energy gap between demand and supply by 14% in terms of forecasts made only two years ago in the upcoming 2016. Which practically translates into a very disturbing prediction, which reflects the more than likely decrease of up to 34% in the supply of oil and its derivatives (including natural gas) global at the end of the year 2025 with respect to the production of the year 2015.



Graphic 6 Prediction of oil production and demand in the New Policies and Sustainable Development scenarios, 2010-2025 (in millions of barrels of oil / day)
 Source: World Energy Outlook 2018. I.E.A. Figure 1.19

This increase in the predicted gap would be justified according to the IEA, due to two factors: the first one, due to the inclusion in its scenarios of a higher percentage that represents the most realistic rate of decline in the exploitation of the current deposits, which today is far from the 3% per year predicted by the IEA itself, in previous years, to use a much more realistic, although perhaps insufficient, percentage of 5% per year in its analyzes.

This 5% seems to be less than the actual percentage of decline, based on the criteria used in the fall of 2016, by the HSBC bank's raw materials section. Whose managers, published a report entitled: "Global oil supply. Will mature field declines drive the next supply crunch?", in which they echoed the undervaluation in the percentage of decline of the current deposits. Report, in which they presented the following Graphic that collects the estimate of global oil production attending to a range of percentages of decline between 5 and 7% per year, between the years: 2016-2040 in millions of barrels per day.



Graphic 7 Prediction of global post peak oil production, taking into account a range of the percentage decline in global production between 5 and 7% per year
Source: HSBC estimates

Secondly, the I.E.A. attributes this increase in the increase in the gap, to the low investments by energy companies, in the search, discovery and exploitation of new deposits. Insistently stressing the need to resume investment rates prior to the collapse of 2008, by energy companies. (I.E.A., 2018: 70-76).

Classical economy and the oxymoron of sustainable tourism

The second of the problems that occur after the access of industrial societies to fossil natural resources can be found among the current postulates that orthodox economic-political social science defends at the moment.

Since only by validating these, it is possible to construct and normalize concepts made up of antagonistic terms in their biophysical nature, as is the case of the concept: "sustainable tourism".

There are many postulates or assumptions that orthodox political economy elevates to the status of universal laws (Torrez-López, 2016) and that once put under the microscope of the scientific method, they have been discarded, or at least seriously put between said (Urbina 2015). To point out, its founding myths such as: the myth of barter (Humphrey 2007); the myth of "homo economicus" (Graeber 2011); the myth of the self-regulating market (Polanyi 1944), the myth of free trade (Chang 2002) or, at an absolute level, the very validation of economic models that show constant growth over time; the American economist Robert Solow being one of its great pioneers (Solow 1956). These models of unlimited economic growth, which in turn are based on other assumptions such as the following:

Everything that worries human beings has a price and can be bought and sold for money; the value of something is valued at its price; the economy is the original, autonomous and self-regulated open system based on relative scarcity, operating through a conceptual model of the circular flow of exchange value known as "Say's Law" (Say 1803) and the ubiquitous supply and demand diagrams supported by the *ceteris paribus* and that are shaped, attending to an abstract world where there is perfect competition. That is, a world where there are a plurality of small companies and with such a size that they cannot have the power to set prices in the sector and that, in turn, produce a homogeneous product and therefore qualitatively indifferent. In this idealized world, the model continues, these small companies would have perfect knowledge of the market, the latter translated into perfect information about it, and there would be no barrier to entry or exit from it.

These assumptions result in a model of perfect competition, characterized by efficiency and equity in an economy based on small businesses that are powerless in the face of market designs (Smith 1776), forcing them to compete through price.

Only by assuming all of the above assumptions can Solow's consistent growth model be accepted. Model, which throughout history has been questioned for being highly impractical by other economists more or less distanced from economic orthodoxy, such as: Joan Robinson (Robinson 1933), Roy Harrod (Harrod 1939), Evsey Domar (Domar 1947) and Edward Chamberlin (Chamberlin 1961) among others. Authors, who in turn have developed models of imperfect competition theory, where companies instead of competing, cooperate for mutual benefit, presenting results characterized by overproduction, excess capacity, and exploitation. Results, which seem more in line with the economic reality that prevails in our societies.

To these criticisms of the perpetual growth model inherited from the classic economic postulates, we must add those pointed out by the pleiad of economic authors included in the areas of bioeconomy and ecological economics. Starting with those whom we can classify as founding fathers of the first: Sergei Podolinsky (Podolinsky 1883), Patrick Gueddes (Gueddes, 1884,) and Frederick Soddy, (Soddy 1922), the only economist to win a Nobel Prize (Nobel Prize of chemistry in 1921, awarded for his contributions to the knowledge of the chemistry of radioactive substances and his research on the origin and nature of isotopes), which have already revealed the deficiencies of the postulates presented by classical economics.

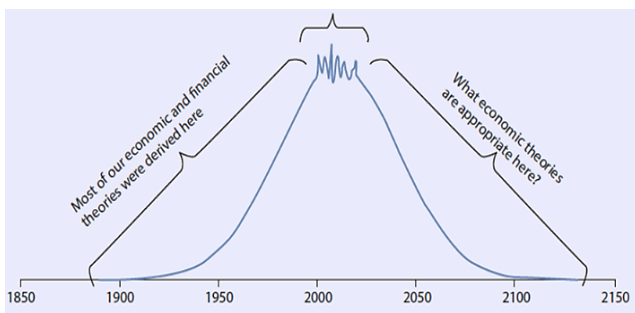
Among all the assumptions that are validated by the orthodox economy, the one that really presents a capital importance to understand why these postulates present a serious problem for the real sustainability of our societies in terms of their way of life, derived from the defense of a primordial and autonomous vision of the economy. From understanding the economy as an open and globalizing system, and therefore, the first study system. Which in the first place, is an unprecedented vision throughout the economic history of humanity, since in all historical times, all societies have presented an economic aspect that has conditioned their lifestyle and development model, but only in the postulates of classical economics do we find the birth and defense of an economy disconnected from ethics and politics, and therefore from society itself (Polanyi, Conrad, Arensberg & Pearson 1974 pp. 423-424).

And secondly, this implies that for orthodox economists, the nature and biophysical laws of the planet do not represent any limit to economic activity either. One only has to approach classical economic theories regarding Ricardo's comparative advantage (Ricardo 1817) and Smith's theory of absolute advantage (Smith 1776), both precursors of the currently prevailing globalization, to observe that their starting points, In none, is the energy waste that its implementation entails, as well as its environmental cost taken into account. Which ultimately prevents the sustainability of these theories over time, as the fossil natural resources on which they rest, show signs of exhaustion (Jevons 1865).

Ultimately, orthodox economists understand that what they call natural capital (natural resources), and which encompasses nature and its biophysical laws, is substitutable for human capital. This is difficult to sustain, as authors such as Georgescu Roegen (Georgescu-Roegen, 1979, 1986) and Naredo (Naredo-Pérez 2015) have repeatedly pointed out. Since natural capital and capital created by human beings cannot be substitutes as the classical economy postulates, but as it is defended from the bioeconomy and ecological economy, natural capital and capital of human origin, can only be Complementary (Daly 2007, 2012). Since any substitution of natural resources can only be observed by other natural resources with an analogous nature. So these, as well as the biophysical laws that govern them, are clear and forceful limitations to economic activity. (Martínez-Alier and Schlüpmann 1992).

A concept as clear and evident as the previous one, can be visualized, observing what happens if we try to invest the yield (human capital) of overfishing (natural capital) in the construction of more fishing boats (human capital); which does not produce more fish (natural capital). In the same way that the increases in investment that the IEA is urgently requesting, from energy companies, oriented towards technological improvement related to the search, process and exploitation of fossil natural resources, (and which are not occurring), will not they generate new fossil natural resources. Since the improvement in technology is merely limited to presenting an increase in the efficiency of the resource exploitation processes, but in no case can it produce or replace these fossil natural resources (Heinberg 2007).

However, orthodox economics has based a large part of its postulates on this substitute fiction. Only lasting in time, thanks to the endless exploitation of fossil natural resources that have made possible an unprecedented period of time in terms of obtaining increases in the net energy that our societies have received. But that arrived at the moments of energetic decrease in which we find ourselves, these premises and / or postulates, begin to expose their ineffectiveness, both conceptual and practical. This will force before than after, to rethink the current economic-political models, attending to a starting situation, with less availability of net energy, and therefore, the need to include the energy investment that must be carried out to carry out a specific anthropological activity, (and its energy opportunity cost), in addition to the economic and / or environmental costs, in future main economic activities (Klitgaard 2009), as is the case, of the tourist activity.



Graphic 8 Relationship of the birth of economic and financial theories that postulate perpetual growth and stagnation and decrease in the production and availability of global fossil natural resources

Source: Hall & Klitgaard (2018). *Energy and the Wealth of Nations*, p. 95

Extrapolating the concept of complementarity between natural capital and human capital to the concept of "sustainable tourism"

The World Tourism Organization (UNWTO) defines sustainable tourism in its glossary of definitions, as follows:

*"Tourism that takes full account of current and future economic, social and environmental impacts to meet the needs of visitors, industry, the environment and host communities"*¹.

This somewhat abstract and generic definition is delimited by the UNWTO when pointing out the essential requirements for the tourist activity to be understood as a sustainable tourist activity, these being the following:

"Sustainable tourism must:

- 1) *Give optimal use to environmental resources, which are a fundamental element of tourism development, maintaining essential ecological processes and helping to conserve natural resources and biological diversity.*
- 2) *Respect the socio-cultural authenticity of host communities, preserve their cultural and architectural assets and traditional values, and contribute to intercultural understanding and tolerance.*
- 3) *Ensure long-term viable economic activities that provide well-distributed socio-economic benefits to all agents, including stable employment and income-earning opportunities and social services for host communities, and that contribute to poverty reduction"*.

These three requirements that we can also find in the same glossary, make up what has been understood in the tourist literature as the triangle of sustainability (Pérez-De las Heras) and which encompasses economic sustainability, social sustainability and medium sustainability, environmental (Salinas-Chávez and La O-Ororio).

Presenting these principles, a series of contradictions that are difficult to avoid. The first of them is exemplified in the fact previously exposed, referring to the impossibility of separating the displacement concept from the implementation of tourism activity. Being necessarily, that this displacement is supported by the consumption of fossil natural energy resources. Finite resources, which have an almost zero replacement rate and that although substitutable among themselves, are not human capital resources. Therefore, taking into account the nature of the energy variable, there is no tourist typology that we can classify as sustainable, provided that we understand sustainable as the very concept of sustainability that the Royal Academy of the Spanish Language uses, which includes the precept of temporary endurance.

¹ <http://sdt.unwto.org/es/content/definicion>

"Sustainable tourism" can only be sustainable if we continue to use the prevailing paradigm for the orthodox economy in which human capital can replace natural capital. And whose one-eyed gaze makes it impossible for us to visualize the true (biophysical) relationships between the economy and natural resources, thus avoiding introducing the limitations that these seconds represent, over the first.

Translating this into unreason, not including the energy variable when analyzing the supposed sustainability that any type of tourist activity may present, even if it is this energy variable, both the prerequisite and the basis of the activity itself.

From this contradiction the oxymoron is born between the terms tourism and sustainable. Since the dominant paradigm presents "sustainable tourism" activity, as an activity that can not only be maintained ad eternum, but also has the capacity to increase exponentially each year. Which, taking into account the biophysical limitations previously indicated, is still a hardly defensible contradiction.

Contradiction, which is much more notable, if it is taken into account the fact that the consumption of fossil natural resources as a prerequisite for the "sustainable tourist activity" to occur, is already something contrary to the first requirement necessary for the activity to occur "Sustainable tourism" according to UNWTO. All this, without stopping to attend to the environmental problems inherently associated with the use (burning) of natural fossil fuels, which aggravate the most pressing environmental problems today, (Torres: 2020) such as global warming, climate change, loss of global biodiversity or human deaths associated with air pollution, which the IEA itself already quantified at 6.5 million / year in its 2016 special report, (IEA 2016 b). Or to the fact of having reduced the tourist activity, to a mere payment for the use of the territory and its resources, renouncing that it acts as a forum to exchange ideas, and as a vector of social change (Fernández-Arroyo: 2020).

Conclusions

Currently, our societies receive 89.59% of the primary energy we consume, from four fossil natural resources such as oil, natural gas, coal, and uranium (BP Statistics 2018), which have a finite nature, not Renewable and not substitutable by human capital, and which are currently presenting unequivocally strong and tangible samples of a rapid and extremely worrying decline in both their availability for exploitation and their energy quality. (Gagnon, Hall & Brinker 2009).

This, in turn, generates the energy opportunity cost between the tourist activity and the rest of the anthropological activities intensive in the consumption of fossil energy resources, which are so necessary for the maintenance of our current societies and ways of life (Hall, Lambert, Balogh . 2014), such as mining, global freight transport, maintenance of structures related to ICTs or the global agricultural system, is greater as fossil energy natural resources continue to decline.

Fact, which inevitably from the academic and professional world, we will have to attend to, and which ultimately requires the necessary inclusion of the energy vision as one more edge in that pleiad of different views that make up the current quasi-systemic vision with which we are approaching the study of tourist activity. In order to be able to analyze, study and understand the problems that tourism activity presents, from now on, a true totalizing systemic perspective. Even though this supposes us to question the objectionable postulates of classical economic social science, which make up the current economic, political and social paradigm.

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Alternative means of dispute resolution in the 21st century

Medios alternativos de solución de controversias en el siglo XXI

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Abstract

Show the importance of alternative means of dispute resolution in family matters and also the advantages of resorting to them, is one of the objectives of this article in which strategies for dissemination and legal advice to society are proposed, as well as raise awareness among the population to determine the problems that are generated in the family environment in relation to the educational field, in which, it is a study with an exploratory descriptive approach to the current situation around the subject and in turn from the qualitative analysis which will allow concrete proposals to be proposed, by linking the academic and social sectors through a series of strategies, from legal advice, training and dissemination of information, among others, this project is expected to contribute to the dissemination of alternative means of dispute resolution in family matters to the community in the entity of Ciudad del Carmen, Campeche, to detect the areas of opportunity in the application of said means to be able to make proposals for their better functioning. Objectives: To demonstrate the benefits of alternative means of resolving family disputes and their advantages. Propose strategies for its dissemination and legal advice to society, as well as guide the population. Methodology: This is a study with a descriptive exploratory approach that shows the current situation around the topic, based on qualitative analysis. Contribution: Link the academic sector with the social sector, as well as provide a series of strategies, from legal advice, training and dissemination of information.

AMCR, Controversy, Diffusion

Resumen

Mostrar la importancia que tienen los Medios alternativos de solución de controversias en materia familiar y las ventajas de recurrir a ellos, es uno de los objetivos de este artículo en el que se plantean estrategias para su difusión y asesoría legal a la sociedad, orientar la población para determinar las problemáticas que se generan en el ámbito familiar con relación al ámbito educativo. Este es un estudio con enfoque exploratorio descriptivo en el que se muestra la situación actual en torno al tema, a partir del análisis cualitativo que permitirá plantear propuestas concretas, al vincular el sector académico con el social así como una serie de estrategias, desde asesoría legal, capacitación y difusión de información, entre otros este proyecto tiene el objetivo de contribuir en la difusión de los medios alternativos de solución de controversias en materia familiar a la comunidad en la entidad de Ciudad del Carmen, Campeche, detectar las áreas de oportunidad en la aplicación de dichos medios para generar propuestas que permitan las condiciones para un mejor funcionamiento. Objetivos: Evidenciar las ventajas que brindan los medios alternativos para la solución de controversias familiares y sus ventajas. Plantear estrategias para su difusión y asesoría legal a la sociedad, así como orientar a la población. Methodology: Este es un estudio con enfoque exploratorio descriptivo en el que se muestra la situación actual en torno al tema, a partir del análisis cualitativo. Contribución: Vincular el sector académico con el social, así como brindar una serie de estrategias, desde asesoría legal, capacitación y difusión de información.

MASC, Controversia, Difusión

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Introduction

In the conventional or traditional penal system, for many years the principle of retributive justice has been applied, which focuses on the sanction of crimes committed, considered as an injury to the legal norm, therefore the sanction seeks the social readaptation of the offender or offender and crime prevention, however, this model of justice was severely criticized for not taking into account the victim, so the conception of crime changed, from considering it a violation of a rule of conduct to an attack by a person to another, so the focus is on repairing the damage caused, from the restorative justice system, which in our country is reflected in the constitutional reform of June 2008, which structurally and substantially modified the criminal justice system by implementing alternative dispute resolution mechanisms, also known as alternative dispute resolution means. Galicia C. F.J (2016: 57)

It is important to indicate the principles that mediation must follow as a benchmark in its application, in order to achieve its effectiveness in dispute resolution.

Principles of mediation

The alternative means are governed by eight principles, these principles are important so that the mediator can evaluate his own services and not make any mistake.

a) *Willfulness*

“The participation of the mediates in the mediation procedure must be by their own decision”. (USAID, 2014)

The media should have the same initiative when starting this procedure, nobody is forced to participate or attend as neither party is obliged to mention personal information, but if you need the encouragement of both parties to start the mediation and that an agreement can be reached.

b) *Confidentiality*

“The information shared in mediation may not be revealed by the mediator, unless it is an offense in which mediation is prohibited or the life or physical integrity of a person is put at risk.” (USAID, 2014)

In the confidentiality since the mediation begins, the mediator makes it clear that all the issues that are dealt with even if it is personal information only remains between the three people in the procedure (both parties and the mediator). Information can only be disclosed when it is a crime as previously mentioned.

c) *Information*

The mediator must clearly explain all the details of the work to be carried out within the process: their role, that of the parties and other parties, as well as the different stages of mediation. (USAID, 2014)

The mediator must explain the operation that each of the parties has, as well as the work that corresponds to him as a mediator, must make people understand that he can only intervene when the parties start to argue or get carried away for other issues that are not relevant in that procedure. The mediator has the function of listening and not intervening in the talk that both parties have since they must reach an agreement that both have the same opportunities and the same arrangements.

d) *Flexibility*

“The mediation procedure must avoid any strict form to be able to respond to the particular needs of the media”. (USAID, 2014)

During the procedure, the media should not follow a format of rules or stages, since the mediator knows that this procedure has rules, the media should tell the media that it is a space for them to solve the conflict of interest that they have, the mediator must not limit the duration of mediation between the media unless in the time you have an agreement has not been reached.

e) *Impartiality*

“This principle attends, on the one hand, to the beliefs of the mediator, who tries to avoid his own personal or professional training, inclinations or preferences interfere during the mediation”. (USAID, 2014)

The mediator should only listen to what the media have to discuss, they themselves must reach an agreement in which you put their main interests, the mediator should not have sympathy, but neither should antipathy on the part of the parties should avoid gestures of annoyance, Although something does not seem to him, the mediator only intervenes in the event that the media start to argue or do not reach an agreement.

f) *Equity*

“The mediator must ensure that the agreement reached by the mid is understood by them and that they perceive it as fair and lasting.” (USAID, 2014)

The mediator must ensure that the interested parties are clear about the entire procedure that is carried out and that the entire session was fair and impartial for both parties.

g) *Legality*

“Only conflicts arising from rights that are freely available to the media can be mediated”. (USAID, 2014)

If the mediator in the entire procedure has doubt or certainty about the legitimacy of an agreement, he should recommend to both parties that they find or seek advice from other mediators or experts in the area.

h) *Honesty*

“The mediator must excuse himself from participating in or terminating a mediation if, in his opinion, he believes that such action would be in favor of the interests of the media” (USAID, 2014)

From the beginning of the procedure the mediator must be aware that he must be totally impartial towards the problems faced by the mediator. In the event that the mediator does not feel capable of his mediator attitudes or capacities, he must refuse to accept said procedure.

i) *Willfulness*

Regarding the mediation process, the principle of voluntariness is fundamental, since it assures the parties that there will be no coercion that forces them to participate in the session, on the contrary, mediation must be voluntary, it is also important to highlight that the participation of mediated, as well as the decisions in the procedure must be made by own will not by obligation.

j) *Confidentiality*

This principle must be applied in all judicial process, in the case of mediation, it is the name given to the mediator, participants or third parties involved in the hearing of not revealing everything that occurs there, that is, the obligation not to communicate to any of the parties those things that have been entrusted to him in the previous or concomitant meetings that he may have had with those involved, unless they authorize it and not to reveal them to any other person. For the parties, it implies both the impossibility of using the elements to which he would have agreed at the hearing, in a possible subsequent trial, and the prohibition to disclose what has been said or heard during it.

k) *Neutrality*

This is one of the most questioned principles in practice, being mainly the mediator, who must be a figure aena to the procedure, that is, have no interests in the matter and therefore be neutral. Neutrality or impartiality implies that the task of the mediator is for the parties to get personally and emotionally involved with the conflict and its solution, without delegating it to any decision-making body other than themselves and without locking themselves in the initial positions, in addition to whether the parties They believe that the mediator is a decision-making body, that is, that they take a position or tend to favor one of the parties, they move away from the goal of the mediation and focus on seducing that decision-making body and it will generate anger and frustration when leaving to pursue procedural justice. Rodríguez G. (2011).

Conciliation

The National Law on Alternative Mechanisms for Dispute Resolution in Criminal Matters establishes in its article 25, that conciliation is “the voluntary mechanism through which the intervenors, in the free exercise of their autonomy, propose solutions to the controversy in which are involved.

In addition to facilitating communication between the participants, the facilitator may, on the basis of objective criteria, present different solution alternatives”.

Conciliation is a procedure in which two or more people who have a problem in general are helped by a third person who is neutral, whose job is to help them reach an agreement that meets each of their needs or problems as well as propose alternative solutions.

Reconciliation Features

- It is a legal act which is provided for in the National Law on Alternative Mechanisms for Dispute Resolution in Criminal Matters to persuade a legal procedure.
- It is a completely voluntary procedure.
- It requires the presence of a third person to propose different solutions to the problem.
- He tends to seek redress for both parties.
- It is acceptable according to the legal provisions on the matter, the conciliator must be a highly capable, professional and accredited by the authority.
- The conciliator must be impartial and avoid falling into the sentiment of one of the parties.
- The conciliation must be totally confidential, the information found in the procedure must not be disclosed by anyone.

Conciliation differences and other alternative dispute resolution means

In the branch of alternative means of conflict resolution there are other means of solution besides conciliation such as mediation and arbitration, the only compatibility with these three is that there is a third party for the help of conflicts.

Mediation and conciliation: between mediation and conciliation there are differences one of them is that in the first there is a mediator who is only in charge of listening to the opinion of both parties and that they reach a common agreement and in the second the conciliator can give his opinion or suggest certain opinions so that the parties reach an agreement. Ombudsman Office (2014).

CONCILIATION AND ARBITRATION: the arbitrator has to listen to both parties, but only he has the duty to resolve the conflict caused, through an award, Ombudsman's Office (2014), and in conciliation the person in charge only gives your opinion about the problem so that both parties reach an agreement.

Arbitration

Arbitration is one of the main means of conflict resolution in our legal system, in this case it will not be a Judge who determines the controversial issue, but a third person previously designated by the parties, and this is the arbitrator, who will resolve the controversy and what the pronouncement may not be discussed by the parties after reaching the agreement, in this way they choose a more private process instead of going to court The parties will reach an agreement through the arbitration agreement in which they will submit the solution of certain conflicts that arose or may arise between them.

Arbitration can be defined as: “Arbitration is a method of dispute resolution whereby the parties agree (arbitration agreement) to submit the solution of certain conflicts that have arisen or may arise between them regarding a certain legal relationship to the decision (arbitration award) of one or several third parties (arbitrators). The form of appointment of third parties is also agreed by the parties” (Peña González, 2010).

What cases can be submitted to arbitration?

Those who are integral parts of the legal relationship and in the event that there is any conflict of interest will be subject to arbitration so that the ordinary jurisdiction process is thus avoided. This agreement can be integrated into a contract, through clauses or in the same way it can be an independent agreement. It is important to know that the two parties that are submitted to arbitration must go voluntarily and freely, and that this be indicated within the arbitration agreement.

The arbitrator will be the one to resolve the conflict between the two parties and this should not be on the side of either, before submitting to said process they must ensure that they are not bound by any circumstance or type of relationship with either of the two parties that are going to intervene in the process, in the event that it is not assured, what has already been issued in the agreement reached can be canceled.

Arbitration Characteristics

- Specialized and fast procedure.
- The referee gives the only solution.
- It grants legal certainty.
- The arbitrators have the capacities of a judge so they can assess the evidence provided to them to dictate a final solution.

Differences between arbitration and mediation

- The arbitrator does not suggest solutions, he decides which is the most feasible solution to the problem posed and the mediator only listens to the reasons of both parties, but he does not decide a solution but themselves.
- The cost of mediation is low compared to arbitration.
- Mediation and arbitration have a similarity in that both are voluntary, neither person is obliged to take this procedure, but it is better since they save a trial at the latest.
- In arbitration there is not much communication between the parties since in mediation they themselves must talk and seek a solution.
- “To round off the idea of the main characteristics of alternative means of conflict resolution, it is pointed out that mediation and arbitration are absolutely voluntary; mediation, as already mentioned, does not have a specific formal structure, while in arbitration and conciliation they do have forms and stages to comply with; in mediation, the parties exercise high control over the mechanism; in conciliation they exercise medium control and in arbitration less control.” (Cuadra Ramírez).

Advantage

- The parties have the possibility to choose the rules that will be applied during the process.
- By being part of the private sphere, the parties can feel secure as there is greater confidentiality of the content of the process.
- It is not a very formal process, the rules are less strict and the performances are carried out informally, this allows both parties to act in a relaxed way and reduce nervousness.
- The parties will be able to choose a specialist in the matter they intend to solve, in this way the assigned person will be able to decide with greater knowledge.
- Since the parties can agree to its terms and set its rules, the resolution process can be accelerated.
- In arbitration there is a third person who is responsible for choosing the correct solution for the conflict raised.

Negotiation

It is a process in which two or more parties with a problem or objective use different communication techniques, in order to obtain a result or solution that reasonably and fairly satisfies their claims, interests, needs or aspirations. (UNAM)

In this alternative medium, interested parties are offered the convenience of exchanging opinions, whether promises and / or making commitments, which must be fulfilled by said parties since they must solve a common problem.

Trading features

- The negotiation has an advantage for both parties, building confidence.
- It is the basis of mediation and negotiation.
- It is voluntary like all other alternative means.
- The parties must reach a pact in a good way and not be forced.

Background to alternative means of dispute resolution

The alternative means of conflict resolution have always been present throughout the life of the human being, since from the beginning of the man the problems in his environment have existed, later we find information related to the alternative means that precede the birth of the nation-state, the arbitration mechanism was used before the figure of the judge was created, in the various states it was supervised since the law that gave it credible legal effects did not exist, therefore all processes were conscientiously managed who issued the arbitration procedure or judgment and it was easy to be manipulated since there was no way to rely on a good basis of credible law.

In ancient times, it was negotiated to make societies more harmonious and thus be able to be in a pleasant environment between the various cultures that were involved, so it was sought to be on equal merits and actions. From ancient China, Japan and the United States; were the main ones in the latter became the main resource to resolve their conflicts.

In Greece there was a system very similar to what we know today as arbitration; which is that a third person is neutral, in which the parties submit to resolve their conflicts based on their own interests.

The conciliation is something similar to the negotiation since it also looks for the good interaction between the media of diverse nature that are in disagreement, this attached to the legal framework of the country as marked by the National Legal culture, helping the solution and supporting arbitration .

There are other AMCRs that can help those involved to decide or define how a better treatment of their problem can be given, making the process easier and making the present conflict easier, so as not to depend on or resort to a person in charge of delivering justice. .

Organisms are divided into two types which provide a good solution to the conflict but involve other media, calling themselves the self-composition (the same person decides what to do with their conflict) and the heterocompositives (using a mediator such as arbitration).

- The development of modern international arbitration began at the end of the 10th century and the beginning of the 20th, which was based on national legislation, so when it was retaken, it was too inconsistent when compiling it and was contradictory, so the judges became reluctant to use it, currently there is a worldwide convergence making a harmonious normative body.
- In the 1960s, Mediation was born in the United States, due to the high judicial cost and in order to decongest the courts, in addition the same people were tired of the physical and psychological wear and tear of what judicial processes entailed, this is how the The same population with scarce resources looked for alternative forms of dispute resolution, originating ADR (Alternative Dispute, Resolution).
- In the 70s it began to be used in Europe, the introduction of family mediation in Europe is carried out from recommendation 1/1998 of the Committee of Ministers of the Council of Europe. In which she sought that family mediation be introduced, promoted and in any case reinforce it by adopting the necessary measures for it.
- In Latin American countries such as Argentina, we have that there was the creation of a decree 1480/92 and the General Law of Mediation and conciliation no. 24573 of 1995. Which was mandatory, however, this did not oblige the parties to mediation, it was more a recommendation in which the parties should go only to comply with that procedure.
- In 1978, it was forced to carry out a series of reforms to the rules of the Spanish Constitution, such as the Civil Code that had to be adapted in 1981, when reforms were approved in the Right to the Family (related to equal rights of legitimate and illegitimate children) the Divorce Law also known as the Ordonez Law
- Thus, in 1997, changes were made to the local constitution of Quintana Roo, issuing the alternative justice law in which measures were implemented to guarantee access to justice. Thus, achieving an impact in the other states.

- In 1999 the first institution of Mediation in Mexico is created; The Family and Community Mediation Unit of the University of Sonora that allow us to have a clearer perspective of mediation and thus be able to train on various topics related to this alternative of knowledge and defense. That same year the Instituto de Mediación de México S.C. in Mexico City.
- With the aim of promoting self-composition solutions in family matters, two reforms were made positively: Law 15/2005 that changed the causal system of separation and divorce by family mediation and the Civil Prosecution Law. Law 5/2012 on Mediation in civil and commercial matters.
- In 2008 there were several reforms to our charter, among them we find Article 17 which indicates; "The laws will provide alternative mechanisms for the resolution of controversies in criminal matters, regulate their application, ensure the repair of the damage and establish the cases in which judicial supervision will be required"

Mexico and the AMCR

Alternative Justice Center of the State of Mexico

The Alternative Justice Center is a dependency of the Court that has technical and managerial autonomy, and is instituted to administer and substantiate alternative methods of dispute resolution, in particular mediation, to deal with conflicts of a civil or commercial nature. , family, criminal and justice for adolescents, between individuals, as well as for their development.

Different means are carried out in the alternative justice center of the State of Mexico, such as:

Mediation, procedure by which communication between the parties is facilitated for the purpose of the same, generating options for solving the conflict and obtaining an agreement acceptable to both.

Facilitation, procedure by which the facilitator tries to promote negotiation between the parties in conflict, in this procedure the facilitator invites both parties to find their own solution analyzing the interests of the other party.

General provisions of the law of mediation, conciliation and promotion of social peace for the state of Mexico

One of the main objects of the Law of mediation, conciliation and promotion of social peace for the State of Mexico is to promote peace and restore interpersonal and social relations, through the means of conflict resolution between society, as well as to make possible the access of collective natural and legal persons to the methods established by this law.

It also establishes the principles, requirements, bases and conditions to carry out the alternative care system for conflict resolution, in the same way it seeks to identify the types of conflicts that can be solved through the methods mentioned in this Law.

Center for alternative family dispute resolution mechanisms of the Sinaloa judiciary

The Center for Alternative Mechanisms for Dispute Resolution in Family Matters of the Sinaloa Judiciary is a body under the Presidency of the Supreme Court of Justice, which was created through an agreement issued by the Plenary.

The objective of incorporating alternative mechanisms to justice delivery services is to provide citizens with their right of access to justice, providing another alternative solution to conflicts of a family nature, other than trial, this through dialogue and are based on voluntariness, confidentiality and procedural economy, as well as guaranteeing the best conditions so that the people who are involved in a conflict can resolve it peacefully, always with the help of a public facilitator.

The alternative mechanisms can be applied in family conflicts that arise between people, referring to a certain fact, right, contract, obligation, action or claim, provided they are matters that may be the subject of compromise; In addition, that they do not affect the morals, the rights of third parties, nor do they break provisions of public order, nor are they inalienable rights.

In the Center for Alternative Mechanisms for Dispute Resolution in Family Matters of the Sinaloa Judiciary, alternate means of mediation and conciliation are carried out.

Provisions of the regulation of the centers of alternative mechanisms for the resolution of controversies in family matters of the judicial power of the state of Sinaloa

The purpose of this Law is to regulate the mediation and conciliation procedures in family matters, its principles, bases and requirements; as well as establishing the organization of the Centers for Alternative Mechanisms for Dispute Resolution in Family Matters of the Judicial Power of the State of Sinaloa.

According to this Law, the alternative mechanisms seek to facilitate and expand access to justice, providing citizens with another alternative for the solution of conflicts of a family nature, other than trial, this through dialogue and based on voluntariness, the confidentiality and procedural economy.

He also mentions the principles by which alternative means are governed, which are: voluntariness, information, confidentiality, neutrality, impartiality, flexibility, fairness, honesty and speed.

Campeche and the AMCR Alternative Justice Center

The Alternative Justice Center is an auxiliary body of the State Judiciary, with technical autonomy to hear and resolve, through non-judicial procedures, the legal disputes raised by the details or forwarded by the Judge.

Its vision is to contribute to the strengthening of the social fabric, through the peaceful resolution of conflicts, reestablish healthy coexistence between the parties, promote values such as peace, harmony, solidarity and respect.

Its mission is to channel interpersonal conflicts, reduce tension and confrontations between the parties, through a peaceful, agile and free way, helping people to communicate and understand each other, to reach an agreement that meets their needs and interests.

Alternative means of conflict resolution

In Campeche at the Alternative Justice Center different means are carried out, which are:

Mediation, procedure through which communication between the parties is facilitated for the purpose of the same, which generate solution options to their conflict and can reach an agreement acceptable to both.

Conciliation, a procedure through which an expert assists the parties to the conflict to facilitate the channels of dialogue, providing alternative solutions.

General provisions in the law of mediation and conciliation of the state of Campeche

According to the Law of mediation and conciliation of the State of Campeche, this seeks to make possible the access of people to the alternative mechanisms for the solution of controversies that are established in this law. This establishes the principles, bases, requirements and conditions to apply mediation and conciliation, always as alternative procedures that offer a prompt and peaceful solution to legal disputes.

It also mentions the creation of the State Center for Alternative Justice, specialized in the conduct and application of the alternative procedures established by this Law, in the same way it will determine and regulate the procedures and bodies for the alternative solution of controversies, as well as the execution of the same.

It establishes the requirements and conditions that individuals or dependencies of the Executive Power must fulfill in the application of the mechanisms that this Law regulates and establishes the regime of administrative responsibility of the specialists in charge of conducting the mediation and conciliation procedures.

Importance of alternative means of dispute resolution in legal practice

Alternative means of conflict resolution have been a result of the needs faced by society throughout its history, since the origin of humanity the need for man to socialize, live in community has been known, which has generated great benefits, as well as disagreements between his life partners.

The human being when establishing himself in society creates his rules and authorities to enforce the established guidelines, to live in harmony, over the centuries his customs became law and this is how we currently find ourselves before a specialized legal system and at the same time saturated by the needs of the population who come before the legal entity to try to live in harmony in ancient times, but the reality always exceeds the ideal and that is how the demand for judicial processes has exceeded the capacity of the judged on different subjects.

Given the need to meet these social needs, judicial processes have been chosen, but which require less time, better results and the tranquility of the parties.

This is possible through conciliation, as part of a judicial process, which facilitates the parties involved in a conflict that requires the intervention of the competent authority, to reach a viable solution, proposed by the same parties, where the only aim is to arrive at the best solution, listening loudly to the other interested party, allowing each other to understand without the need for the intervention of a third party who decides on a subject that they will learn about through a judicial process, based mainly on documents and written by the parties or legal advisers. For the conciliation, the agreement of wills where the intervenors are the ones who find and propose the best solution, but at the same time acquire the legal security of the parties, of the validity and coverage of the judicial authority to guarantee through an agreement concluded by the parties, is essential. elevate to the category of *res judicata*, thereby leaving it as a signature judgment, allowing in case of non-compliance to resort to the court in turn to request the execution of the agreement, having the security of having the relevant elements to be heard in the judgment of being necessary.

Campeche was one of the states impacted by the sequel to the constitutional reform carried out in 1997 by the free and sovereign state of Querétaro de Arteaga, who gave rise to mediation and conciliation sessions to alleviate the legal burden faced by those from Queretaro, who were seeking solutions in less time and avoid the wear and tear of a trial in civil, commercial, family and criminal matters.

With this reform, the alternative Justice Centers are created, who can know and give the necessary tools to reach a good agreement between the parties, where trained personnel provide the parties with the ideal environment, as well as the communication elements used during mediation or conciliation to help the parties to have an assertive communication, thereby allowing empathy and an agreement where the participants have the feeling of satisfaction with the results obtained.

The alternative means of conflict resolution have been well accepted in all states, the sense of satisfaction of the users is high, most after attending a session and signing an agreement leave with the feeling that they have achieved what they wanted by attending to the competent instances, they feel listened to, taken into consideration and part of the process, the win-win feeling is achieved.

In order to guarantee the correct application of the AMCR, the Mexican Institute of Mediation arises, with the purpose of disseminating and promoting them, in the same way to "prepare and certify mediators, monitor the strict compliance with its Code of Ethics and Mediation Regulations, develop a center that manages mediation processes and, in general terms, ensure the full and harmonious development of mediation in Mexico" (EJEC, 2019).

The preparation of the applicators of justice in the state is the way to guarantee the correct performance of the functions that they perform as public servants, due to the sensitivity with which issues of interest to the parties must be treated.

Mediators and / or conciliators must be trained, valuing in the same way to avoid losing their impartiality as much as possible when they feel identified with the different issues they know or lose ethics and objectivity, in case of detecting circumstances of this type or indication of them The acting public servant will be removed and psychological support will be provided until he is in optimal conditions to develop again or reassign him, if after the therapies taken this does not give the expected results or if this applicator of justice does not feel well with the activity to develop again.

In the legal practice of these alternative means of conflict resolution, it is important to note that legal advisers continue to be part of the process, and as the name implies, it is an alternative way to which lawyers can resort to resolve amicably, with procedural speed and guaranteeing the represented the legal validity.

The applicant lawyer takes the represented person by the hand, explaining the operation of the alternative means of conflict resolution, as well as the functions performed by the Alternative Justice Centers of the Courts of Justice of each state, in order to provide a shorter way out your client, who can get the best results from your perspective. Going to the Alternative Justice Center gives us a faster way out, but requires a legal adviser who is in charge of explaining before starting the mediation the doubts that your counsel may have, as well as the legal consequences in case of having them in the middle of the mediation, since the mediator cannot give advice to the parties, simply support them for the proper development of the mediation, for this reason the lawyer, although he cannot intervene within the mediation, if he can be present, provided that the parties have the legal advice at the moment too.

Going to an Alternative Justice Center is at the request of one of the parties, and can be without the need to go accompanied by a legal advisor, the service is provided, by filling out a form where the applicant's data is collected; on the day and time appointed to vent the mediation, the parties appear if this is their will, after the explanation of the rules by the mediator, if the parties decide to undergo mediation, this is carried out only with the information provided by the public servant and the will of the parties, reaching the agreements that they consider the best among them.

It is important to point out to the users of these alternative means of conflict resolution that the ethics of justice operators is something widely considered by the Courts of Justice, since at all times it seeks to ensure that users feel safe and satisfied with the way of doing justice in which they are participants.

Finally, it is important to highlight that the current circumstances, such as the Covid 19 pandemic that the world is experiencing, forces society to use digital media for most of the activities that it carries out, since it is extrajudicial mechanisms that require online development. to facilitate the resolution of disputes, which shows a trend towards its consolidation not only as a serious mechanism at the global level, but also as an indispensable and effective tool González WN (2020), which generates trust on the part of society, however, this is the subject of another research paper.

Conclusion

This work allows to know, reaffirm and analyze in detail on the subject of Alternative Means of Dispute Resolution in the twentieth century, giving a different perspective to development from different perspectives.

We can visualize the current situation of the subject and not only in our State and how it has evolved to the present day, as well as the way in which it is carried out, applied today, and the importance they have in other states.

The AMCR of the 20th century helped a lot to facilitate the resolution of different conflicts between individuals, we see this method feasible for our current society, however the correct procedure must be thoroughly known, since the correct application influences the expected results , for which the professional must be fully trained to efficiently handle this method, in any case, taking into account the current regulations and general provisions.

Final thoughts

According to the analysis carried out, we found that even though this method is not new, there is a lack of information and disagreement about it, which could well facilitate the settlement of certain conflicts through this alternative, which is why a better and greater dissemination is necessary, considering that the centers and the personnel that start it up must have training and enough experience in the process that allows obtaining good results.

Educational institutions are a great way to disseminate AMCRs, and a strategy to spread the importance of their implementation in cases that warrant it.

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Designing the reward model in banking industry: an integrated ISM-DEMATEL approach

Diseño del modelo de recompensas en la industria bancaria: un enfoque integrado de ISM-DEMATEL

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Abstract

Banks are constantly looking for a pattern for reward that can be used as a scientific and documentary guidance. Since novel models of rewards have common concepts that refer to the sum of financial and non-financial payments, the way of interacting financial and non-financial rewards are one of the most sensitive and discussable issues in service organizations such as banks. The purpose of this study is designing an appropriate reward model with an emphasis on all its aspects as a cohesive unity. Ranking the factors and prioritizing each of the components related to reward would beneficially help to recognize the employees' desires and would be accessible for banks as a scientific and documentary guidance. The utilized method for prioritizing the factors was interpretive structural modeling and DEMATEL method has been used to quantitatively analyze the relationships and interactions among factors. The results indicate that performance-based payment is the most influential factor, and affiliation reward has been most influenced by the other factors.

Reward, Compensation, Financial payment, Non-financial payment

Resumen

Los bancos siempre buscan un modelo de recompensa que se puede utilizar como guía científica y probatoria. Porque los nuevos modelos de recompensa tienen conceptos en común que se refieren a la suma de pagos financieros y no financieros, la forma en que interactúan las recompensas financieras y no financieras es uno de los temas más sensibles y controvertidos en las organizaciones de servicios, incluso los bancos. El estudio de propósito tiene como objetivo diseñar un modelo de recompensa apropiado con énfasis en todos sus aspectos como un todo coherente. La categorización dimensional y la priorización de cada uno de los componentes relacionados con las recompensas ayudan a identificar las demandas de los empleados y se proporciona los bancos como una guía científica y probatoria. El método utilizado para priorizar factores es el modelado estructural interpretativo y el método DEMATEL se ha utilizado para el análisis cuantitativo de relaciones e interacción entre factores. Los resultados muestran que el pago basado en el desempeño ha sido identificado como el más efectivo y la recompensa por dependencia del trabajo como el factor más efectivo.

Recompensa, Compensación, Pago financiero, Pago no financiero

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Introduction

Private sector organizations have more flexibility in designing rewards programs. Therefore, they had better use rewards as a tool to gain the benefits of having committed and engaged employees (Ghosh et al., 2016). Designing and implementing appropriate reward systems can not only influence employee motivation, but also improve safety, quality, creativity, innovation and many other important consequences (Gupta & Shaw, 2014).

Human capital in the banking system, like other institutions, is a priority, so one of the challenges for banks is the design of a payment system. Since modern models of total rewards have common concepts that apply to the sum of financial and non-financial payments, and proportional rewards have the characteristics of adequacy, equilibrium and competitiveness. So how to allocate financial and non-financial rewards is one of the most sensitive and controversial issues in service organizations including banks. A successful model of total rewards focuses on the needs of employees, with the goal of providing a flexible mix of rewards offered by choosing and using rewards to create a distinctive employer brand when adopting a long-term incremental approach (Prouska et al., 2016). Therefore, the main question of the research is to find out what is the reward model of the bank employees with the combined approach of ISM and DEMATEL?

Literature Review

Direct financial reward includes payments that a person receives in the form of wages, salaries, commissions and bonuses. Indirect financial reward (employee benefits) consists of all financial rewards that are not included in the direct financial reward. Non-financial rewards include the personal satisfaction that one receives from the job itself or from the psychological conditions in which the person works. Employers may opt for non-financial rewards to complete employee compensation, especially when it is difficult to obtain higher salaries due to the economic crisis (Mondy & Martocchio, 2016).

Following are some classification of rewards. Gulyani & Sharma (2018) divided rewards into three major categories, namely, financial rewards, material rewards, and psychological rewards.

According to Hulkko-Nyman et al. (2012) total rewards divided to monetary, material and non-monetary rewards. Pregolato (2010) classified reward elements into five broad categories: Remuneration, benefits, work-life balance, performance and cognition, career advancement, and learning. Azasu (2012) states that reward includes five components: compensation, benefits, work-life balance, performance and recognition, development, and job opportunities.

In this study, 12 key factors of employee rewards have been identified through reviewing and investigating some of the conducted studies and researches (Table 1).

S. No.	Factors	Author (Year)
1 (C1)	Performance-based payment	Yeh et al. (2009), Belle (2010), Wickramasinghe and Wickramasinghe (2016), Forth et al. (2016), Hur (2018)
2 (C2)	Individual-based payment	Eugene Hughes (2003), Mitra et al. (2016)
3 (C3)	Job related payment	Georgantzis and Vasileiou (2014), Mitra et al. (2016)
4 (C4) & 5 (C5)	Constant benefits & Inconstant benefits	Manas and Graham (2003), Carraher et al. (2003), Towers Perrin (2007), WorldatWork (2007), Hay Group (2009), Hellerigl & Slocum (2011), Towers Watson (2012), Milkovich Et al. (2014), Vidal-Salazar et al. (2016), Martocchio (2017), Chinyio et al. (2018)
6 (C6)	Social reward	Williamson et al. (2009), Newmaand and Sheikh (2012), Ramirez-Marin and Shafa (2018)
7 (C7)	Developmental reward	Zingheim and Schuster (2000), Tropman (2001), Manas & Graham (2003), Towers Perrin (2007), Towers Watson (2012), Azasu (2012), Sibson (2014), Schlechter et al. (2015), WorldatWork (2015), Peluso et al. (2017)
8 (C8)	Environmental reward	Zingheim and Schuster (2000), Towers Perrin (2007), Janakiraman et al. (2011), Azasu (2012), Towers Watson (2012), Peluso et al. (2017)
9 (C9)	Work-life balance	Towers Perrin (2007), WorldatWork (2007), IDS (2008), Towers Watson (2012)
10 (C10)	Job content reward	Tropman (2001), Newman and Sheikh (2012), Giancola (2014)
11 (C11)	Affiliation reward	Manas & Graham's (2003), Sibson (2016)
12 (C12)	Self-determined reward	Hellriegel and Slocum (2011), Koch et al. (2014), Brown et al. (2018)

Table 1 Reward factors recognized through research literature

Performance-based Payment

Today, performance-based pay systems, also known as variable pay systems, are commonly implemented in workplaces as a business strategy to improve employees' performance and reduce costs (Yeh *et al.*, 2009).

Variable payment is the payment of cash to individuals in addition to the base pay. These payments are not part of the payment and are not a basic payment. Thus, the variable pay recognizes the performance of individuals or the performance of their team or organization (Wickramasinghe & Wickramasinghe, 2016).

Proponents of performance-based payment plans use expectation and reinforcement theories. Expectancy theory assumes that if people expect to be rewarded with high performance, they are likely to work harder. Reinforcement theory states that individual behavior is a function of its consequences. This approach shows that an organization can influence the behavior of its employees through incentives or penalties. Thus, according to this theory, rewarding high performance with financial incentives enhances employee orientation to results (Belle, 2010; Hur, 2018).

Individual-based Payment

Individual-based payment refers to payment based on staff competencies and capabilities. Skill-based payment systems reward employees for the set of skills they have acquired or the number of different jobs they can do. Two people who do the same job can have very different pay levels because one has more skills than the other, an approach that is fundamentally different from paying a job (Mitra *et al.*, 2016).

The purpose of the skill-based reward system is to recognize and pay for the skill, competence, and knowledge necessary to perform an employee assigned task (Eugene Hughes, 2003).

Job-based Payment

The most traditional compensation is a job-based payment system that rewards people for the work they do. Internal equality (through job evaluation) and external equality (through wage and benefits) are taken into account in these systems (Mitra *et al.*, 2016). The Mercer pattern is the quantitative method and somehow a combination of the method score and compare factors. The Job Evaluation System (IPE) is used to rank and determine the organization's jobs. This system evaluates the organization's jobs in five factors: impact, communication, innovation, knowledge, risk.

According to the theory of compensating wage differentials (CWDs), the wage of a person in a particular job should offset the effort and other psychological costs that result from the overall job characteristics (Georgantzis & Vasileiou, 2014).

Benefit

Benefits are supplementary payments to cover certain conditions such as retirement, lack of health care and transfer of services (Chinyio *et al.*, 2018).

In addition, previous literature has shown how benefits can support some businesses and HR strategies, to the extent that they are valued by staff and are an important determinant of employee job satisfaction. As a consequence, the benefits have been considered an effective tool to increase firms' attraction and retention capacity (Vidal-Salazar *et al.*, 2016).

Each organization offers different benefits depending on its goals. In Iran, benefits are classified into two categories: constant and inconstant benefits:

Constant benefits (cash and non-cash): There are cases where workers are paid several months in a row with basic salaries and are usually referred to as individual salaries. Such as, child and spouse allowance, housing allowance, household consumption allowance, transportation allowance, etc.

Inconstant Benefits (Cash and Non-Cash): There are cases where there are no fixed payment procedures and may be paid to workers every few months. Such as: Deposits for religious services, clothing allowances, scholarships, sports allowances, etc.

Benefits are inseparable from reward models and are usually expressed as indirect rewards. Manas & Graham (2003), Towers Perrin (2007), WorldatWork (2007), Hay Group (2009), Hellerigl & Slocum (2011), Towers Watson (2012), Milkovich et al. (2014), Martocchio (2017), etc. pointed to the benefits in the reward models.

Social Reward

Social rewards are defined as actions and expressions that specifically reflect respect, courtesy, social praise, and benevolence. Respect and politeness centered around showing independence and proper politeness in social interactions, which does not necessarily have to be positive, but is about recognizing and considering one's position within the group (Buttny and Williams, 2000; Ramirez-Marin & Shafa, 2018).

Social rewards come from interacting with other people in the job and may include having supportive relationships with the supervisor and co-workers (Newman & Sheikh, 2012).

Developmental Reward

Previous research has shown that adopting HRM practices in training and development, maximizing positive employees' emotional reactions in the workplace and increasing their overall satisfaction leads to better quality of work-life for employees (Peluso et al., 2017).

Manas & Graham (2003), Zingheim & Schuster (2000), Sibson (2016), Towers Watson (2012), WorldatWork (2015), Towers Perrin (2007) and Tropman (2001) pointed to developmental rewards.

Environmental Reward

People choose an organization that provides care and supportive work environments. There is evidence that characteristics of the workplace and physical environment have a positive effect on employee commitment. It is expected that there will be an understanding of a positive work environment - such as a place with good physical and mental health as well as opportunities for work-life balance that will bring out the best in employees and increase their commitment and performance (Peluso *et al.*, 2017).

Zingheim and Schuster (2000), Towers Perrin (2007) and Towers Watson (2012), have also mentioned environmental rewards in reward models.

Work-life Balance

WLB is defined as "an individual's subjective appraisal of the accord between his/her work and non work activities and life" (Brough *et al.*, 2014; Gravador and Teng-Calleja, 2018).

The concept of work-life balance is based on the idea that work and personal life complement each other in achieving perfection in one's life. At the same time, the literature indicates that HR policies endeavoring to improve employee work-life balances have been related to positive consequences. Chatrakul Na Ayudhya et al. (2015) state that work-life balance can be a viable alternative for traditional financial rewards in times of economic crisis.

Towers Watson (2012), IDS (2008), Towers Perrin (2007), WorldatWork (2007) pointed to work-life balance in designing a reward model.

Job Content Reward

Giancola (2014) states that job characteristics are an effective factor in employee motivation and have been referred to in many theories. The most well-known theories are job Characteristics theory and self determination theory. Giancola regards job-related reward as internal reward. Opportunities to use skills and abilities, the work itself, autonomy and independence, sense of meaningfulness, variety of work are examples of job rewards.

Newman and Sheikh (2012) have included independence and freedom at work as internal rewards.

These types of rewards are mentioned in the Towers Watson, Sibson, and WorldatWork reward models. Tropman in the reward equation, which has shown 10 variables, brings the job content into the psychological rewards variable.

Affiliation Reward

There is little research on affiliation in reward models. Sibson (2016), in the reward model, refers to the affiliation and defines it as: "Employee feeling of belonging to the organization is called affiliation and is measurable with the components of organizational commitment, citizenship behavior and trust".

Also, in Manas & Graham's (2003) total reward Model, they have incorporated affiliation into the category of intrinsic non-financial rewards, stating that organizational belonging to the individual creates value just as an individual feels at home. An organization can also create value for employees from the time they are hired to the time they leave the organization.

Self-determined Reward

In designing the reward model, Hellriegel and Slocum (2011) mentioned six types of rewards, one of which is self-determined rewards, including the components of self-congratulation, self-recognition, self praise, self-development through expanded knowledge/skills, and greater sense of self-worth. Self administered rewards act as motivation for individual achievements and are widely recommended for personal motivation.

Since the self-reward is under the control of the individual, it is applied to overcome some of the limitations of extrinsic rewards. (A) It's more acceptable than extrinsic reward; (B) less likely to weaken intrinsic motivation; (C) more likely to result in favorable behavior change than extrinsic incentives (Brown *et al.*, 2018).

Methodology

The purpose of this method was the classification of the factors and identification of the relationships between the criteria. It was a qualitative-quantitative approach widely used in various sciences.

The study was applied-developmental in terms of purpose and descriptive in terms of data collection method. Data collection method in the study was designing and distributing the questionnaires among expert groups. Two questionnaires were designed in the study, one of which was used to collect the required data for ISM analysis and the other to collect data for DEMATEL analysis.

Two groups of experts from academia and industry were selected based on purposive sampling. There is not any consensus on the number of specialists for ISM. This number varies from 8 to 42 (Mahajan *et al.*, 2016). In the questionnaire that was designed for the ISM method, the experts were asked to determine the kind of relationship between the factors in question in terms of effecting and being effected, and they were asked to specify the intensity of factors affecting each other quantitatively in the questionnaire designed for DEMATEL method. The flow of the study has been given in Figure 1.

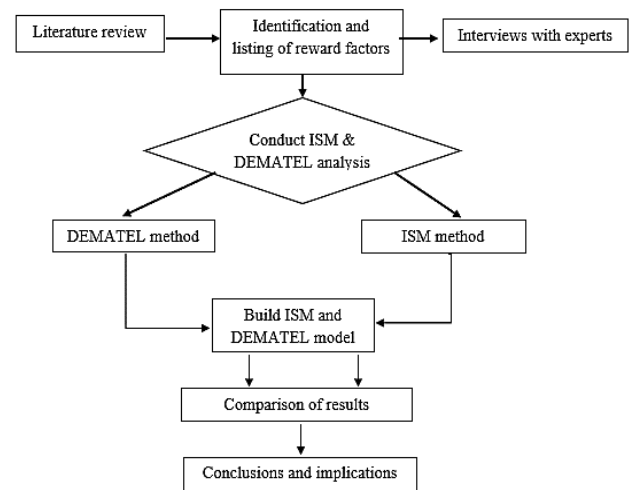


Figure 1 Flow of the study

Results

Interpretive Structural Modeling (ISM)

The ISM can serve as a tool for establishing order and orientation in complex relationships between variables. ISM depends on the opinion of experts. ISM methodology is interpretive due to the fact that judgment of the group decides whether and how the variables are related.

It is structural too, as on the basis of obtained relationship, an overall structure about a complex set of variables is generated.

Final reachability is derived by incorporating the transitivity in the matrix. Table 2 contains the dependence power (represented by row) and driving power (represented by column) of each factor. The calculation of dependence power and driving factors is based on the development of reachability matrix.

Item	1	2	3	4	5	6	7	8	9	10	11	12	Driving power
C1	1	0	0	0	1	1	1	1	1	1	1	1	10
C2	0	1	0	0	1	0	0	0	1	0	1	1	6
C3	0	0	1	0	0	0	0	1	1	1	1	1	7
C4	0	0	0	1	0	0	0	0	1	0	1	1	5
C5	0	0	0	0	1	0	0	0	1	0	1	1	5
C6	0	0	1	0	0	1	1	1	1	1	1	1	9
C7	0	0	1	0	0	0	1	0	1	1	1	1	7
C8	0	0	1	0	0	0	0	1	1	1	1	1	7
C9	0	0	0	0	0	0	0	0	1	0	1	1	4
C10	0	0	1	0	0	0	0	1	1	1	1	1	7
C11	0	0	0	0	0	0	0	0	0	1	1	0	2
C12	0	0	0	0	0	0	0	0	1	0	1	1	4
Dependence	1	1	5	1	3	2	3	5	11	6	12	11	

Table 2 Final reachability matrix

From table 3, it is observed that affiliation reward is placed at level-I in the ISM based hierarchal model. It also implies that work-life balance and self-determined reward are positioned at level-II in the ISM hierarchy. Pay for job, constant benefits, inconstant benefits, environmental reward and job content reward are placed at level-III ; pay for individual and developmental reward are placed at level-IV; social reward is placed at level-V and finally pay for performance is placed at level-VI .

The research model indicates that affiliation reward, which is related to a sense of belonging, commitment, trust and organizational citizenship behavior, is the result of other financial and non-financial rewards. From among financial rewards, performance-based payment and from among non-financial rewards, social reward are viewed as the most influential factors.

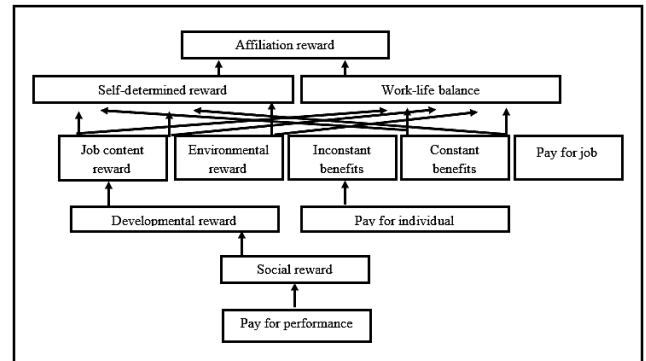


Figure 2 The ISM model for employees' reward

MICMAC analysis

Figure 3 shows that the second, fourth, and fifth factors (C2, C4, C5) are in the first cluster. These factors have the least degree of effect and the least degree of dependency in the designed model. The realization of these factors is not conditional on the realization of the other factors (other 10 factors) and their realization does not drastically affect the realization or non-realization of other factors.

Factors	Reachability set	Antecedent set	Intersection set	Level
C1	1	1,5,6,7,8,9,10,11,12	1	VI
C2	2	2,5,9,11,12	2	IV
C3	3,6,7,8,10	3,8,9,10,11,12	3,8,10	III
C4	4	4,9,11,12	4	III
C5	1,2,5	5,9,11,12	5	III
C6	1,6	3,6,7,8,9,10,11,12	6	V
C7	1,6,7	3,7,9,10,11,12	7	IV
C8	1,3,6,8,10	3,8,9,10,11,12	3,8,10	III
C9	1,2,3,4,5,6,7,8,9,10,12	9,11,12	9,12	II
C10	1,3,6,7,8,10	3,8,9,10,11,12	3,8,10	III
C11	1,2,3,4,5,6,7,8,9,10,11,12	11	11	I
C12	1,2,3,4,5,6,7,8,9,10,12	9,11,12	9,12	II

Table 3 Determination of level and priorities of variables

The ISM model in Figure 2 shows that pay for performance is the most significant factor for reward, as it forms the base of the hierarchy. Then comes social reward which lies at the second level of the hierarchy. Social reward influences developmental reward which lie at level three. Developmental reward act as enablers for job content reward and pay for individual acts as enablers for inconstant benefits which lie at level 4 of the ISM model.

The ninth, eleventh, and twelfth factors (C9, C11, C12) are in the second cluster. These factors have the least degree of effect and the most degree of dependency in the designed model. Their realization depends on other factors.

Job content reward, environmental reward, inconstant benefits, constant benefits and pay for job significantly contributed to reach work-life balance and self-determined reward at level 5. Affiliation reward occupies the top level in the ISM hierarchy. It clearly indicates that all other reward factors should act in unison in order to make employees feel more affiliated.

No reward criteria fall under the third cluster of linkage criteria which have strong driving power as well as strong dependence. The criteria in this group can be relatively unstable as any action on these criteria will have an impact on others and also a feedback influence on itself.

The first, third, sixth, seventh, eighth and tenth factors (C1, C3, C6, C7, C8, C10) are in the third cluster. These factors have the most degree of effect and the least degree of dependency in the designed model. These factors have a role in the realization of other influential factors in the reward system; however, their realization does not depend on other factors.

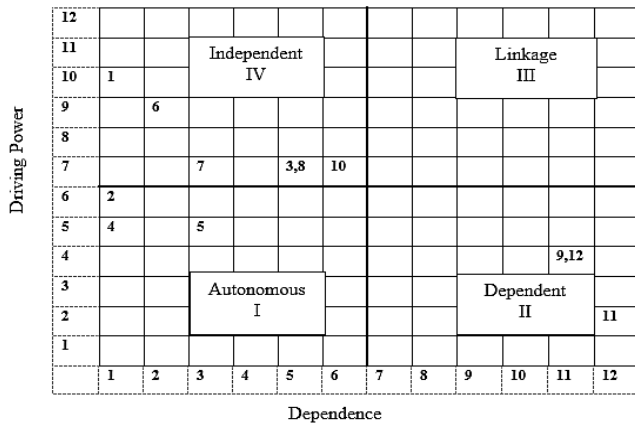


Figure 3 Driving power and dependence diagram for rewards

DEMATEL

The decision making trial and evaluation laboratory (DEMATEL) method was developed by the Geneva Research Centre of the Battelle Memorial Institute between 1972 and 1976 (Kumar and Dixit, 2018). This method creates the interrelationship between factors to build a network relationship map. (D + R) and (D-R) represent the so called prominences and relations, respectively. Based on the (D+R) values, the preference or relative importance order for these identified factors is given as affiliation reward (C11) > self-determined reward (C12) > work-life balance (C9) > pay for job (C3) > job content reward (C10) > social reward (C6) > pay for performance (C1) > pay for individual (C2) > constant benefits (C4) > developmental reward (C7) > environmental reward (C8) > inconstant benefits (C5) as shown in Table 4. In contrast to the importance of each factor, affiliation reward (C11), self-determined reward (C12) and work-life balance (C9) are ranked first, second, and third with the highest (D+R) values. Likewise, the ‘relation’ values (i.e. D-R) categorize the factors into cause and effect groups depending on the positive (net cause) and negative (net receive) values attained in the total relationship matrix (Table 4).

	D	R	D+R	D-R	Co-ordinates
C1	4.455	4.415	7.870	0.040	P1(7.870,0.040)
C2	3.926	3.890	7.815	0.036	P2(7.815,0.036)
C3	4.124	4.093	8.216	0.031	P3(8.216,0.031)
C4	3.703	3.679	7.382	0.023	P4(7.382,0.023)
C5	3.101	3.154	6.255	-0.053	P5(6.255,-0.053)
C6	4.018	3.959	7.977	0.059	P6(7.977,0.059)
C7	3.700	3.622	7.322	0.078	P7(7.322,0.078)
C8	3.483	3.453	6.935	0.030	P8(6.935,0.030)
C9	4.072	4.161	8.233	-0.089	P9(8.233,-0.089)
C10	4.107	4.007	8.114	0.100	P10(8.114,0.100)
C11	4.565	4.708	9.272	-0.143	P11(9.272,-0.143)
C12	4.332	4.304	8.636	0.028	P12(8.636,0.028)

Table 4 Degree of influence

According to Figure 4, factors such as performance-based pay, job-based pay, individual-based pay, constant benefits, social reward, developmental reward, environmental reward, job content reward, and self-determined reward with positive values have been identified as cause factors. Factors such as the inconstant benefits, work-life balance, and the affiliation reward with negative values have been identified as effect factors. In addition, the intensity and effectiveness of each factor are calculated quantitatively. Finally, we found that the C10, C7, C6, C1, and C2 are the first, second, third, fourth, and fifth are the most influential factors respectively.

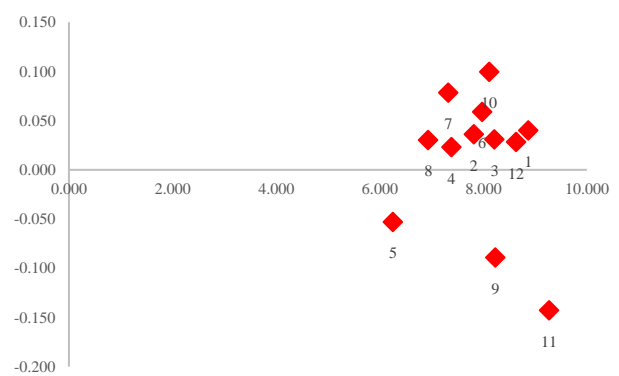


Figure 4 DEMATEL causal diagram

Conclusions and Recommendations

Reward is an attractive and at the same time highly varied aspect in human resources management. Nowadays, one of the main functions of human resources managers is attracting, keeping and improving beneficiary human capitals in the organization; in this regard, regulating and designing an appropriate reward system is one of the most important factors.

Since in this study, performance-based payment was the most influential factor, it is suggested that managers of the organizations constantly support the establishment of performance-based payment system; Top managers` commitment, as the organization`s leaders in administering performance-based payment or any system that is going to be administered in the organization, would act as an administrative support for low-level managers. Appraising a proper performance is seen one of the main and the determining principles in shaping a mentality of justice in the organization.

Therefore, developing performance appraisal and training managers to effectively use this tool should be included in the main programs, while an appropriate and fair performance appraisal system should be designed upon which rewards are paid. As well, the way the performance-based payment is made should be clearly and unambiguously specified for all the employees.

Social reward is an effective reward that as a motive power, makes individuals improve their skills and use them in the future. Managers should encourage and appreciate employees privately or preferably in public. The encouragement could be material, verbal or via offering a letter of appreciation.

It is recommended that managers pay more attention to the learning opportunities and personal developments of their employees in their jobs; in this regard, holding constant and frequent educational courses with the aim of increasing professional as well as life skills can be beneficial. Moreover, it is suggested that those employees who use their trainings in their jobs, be financially encouraged, which improves the satisfaction from financial rewards.

Work environment should have primary facilities, for example, it should be appropriate in terms of light, ventilation, being away from environmental noise and etc. and primary tools and appropriate work instrument be accessible for employees. The appropriateness of physical conditions of the working environment is among primary prerequisites of increasing one` efficiency.

Managers can delegate authority, freedom and decision-making right to the individuals in their jobs, especially for those employees having sufficient experience that due to reasons, their improvement has not been made possible in the organization. This issue is essential for younger capable employees that have the related proficiencies.

Furthermore, managers should have proper job evaluation methods and behave fairly while making payments. These issues result in employees` satisfaction.

Using flexible benefit package for employees is a good strategy to increase their satisfaction regarding the financial and non-financial rewards.

To improve self-administered rewards, managers should behave employees in a way that they feel themselves as important person both in the organization and while reaching to the purposes of the organization. Improving the feeling of identity and being value increases individuals` motivation and leads them comprehend that managers highly regard their position in the organization and their little effort to reach the organization`s purposes is of utmost importance; therefore, they do self-development through developing their knowledge and skills.

As a summary and regarding various presented models in the area of reward, it could be stated that no rewards, whether financial or non-financial can be best and ideal for all organizations; in other words, designing a reward system and the way of its administration by managers, should follow a contingent decision-making pattern. Therefore, in designing a reward system, differences should be taken into consideration. The presented model in this study, can be utilized as a basis for prioritizing factors and various forms of rewards in banks.

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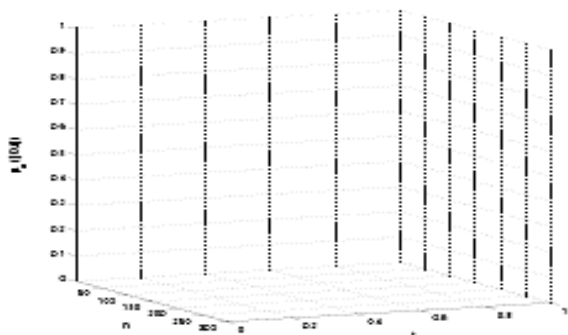
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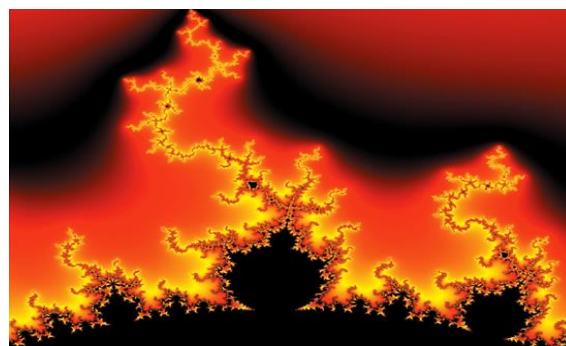


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