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The present issue contains four research articles, subjected to the double, blind peer-review process.

Globalization and the Human Factor in the Public Service Organization is written by Demetrios Argyriades. The assumption underpinning the efforts to “shrink the State” may imply that ongoing globalization of markets had made traditional forms of government intervention in economic sphere redundant and possibly harmful. In any case, markets were supposed to be more efficient at allocating resources than either politicians or the professional bureaucrats.

According to Argyriades, this view though not completely unfounded, takes insufficiently into account a subtle, multiple shift which, since the 1980s, has drastically altered the balance of power world-wide: from the South and from the East to the Northwest; from the public sector to private enterprise; and in a number of countries, from organized labour to management. The dominant ideology during the 1980s and 1990s reflected this state of affairs and it continues in the 21st Century, however there is a need for its revision.

The second article is written by Heber Bernardo Magallón González, Evaristo Galeana Figueroa and Camilo Prado-Roman. Its title is *Banking innovations and their effect on profitability*. The objective is to address these questions by analyzing multiple empirical articles published at different times, in different countries, and with various innovations typologies.

The paper is divided into three sections. First, it presents a chronology of the evolution of banks, their main innovations, and events that have modified the banking business model to adapt it to banking sector today. The second part is based on bibliometric tools to present the primary references of the articles analyzing the relationship between innovation and bank profitability and its conceptual structure. The third section analyzes the concept of branchless banking and its factors. Three findings stand out: 1) according to the empirical literature consulted, it is concluded that innovation does affect profitability, 2) publications have grown in recent years, with China being the most productive country and the United States the most

influential one, and 3) The concept of branchless banking is a viable alternative to measure innovation in the Mexican banking sector.

Virtual tourism in the post-pandemic reality: Economic-financial flows is the next article. Its authors are Víctor Fernández Calvo, Alexander Rühl and Renata Kubus. The objective of this research is to analyze how virtual tourism viability is achieved in face of post-pandemic reality stemming from economic and financial flows of companies in the sector.

The analysis is based on surveys from organizations such as MCI Spain and EventoPlus as well as information obtained from ten professional congresses on health, research as well as corporate topics. Five of these congresses are face-to-face (pre-pandemic), four are virtual and one is hybrid (post-pandemic). The results show that virtual events viability is mainly achieved by sustainability, security, audio-visual elements, and types of event formats. The main conclusion is that the post-pandemic reality demands from congress tourism the creation of new, smart, and sustainable ideas to improve the overall satisfaction of value chain participants.

Paola Irene Mayorga Salamanca is the author of the fourth article, titled: *Redefining Corporate Social Responsibility and its relation to Sustainable Development Goals*. This article's objective is to redefine Corporate Social Responsibility (CSR) and its relation to Sustainable Development Goals (SDGs) based on organizational performance and competitiveness. It highlights the importance of including a new dimension of sustainability in organizations. The main conclusion is that Corporate Social Responsibility constitutes one of the most relevant global efforts to make sustainable development goals concrete and measurable.

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We would like to express our gratitude to authors for their papers. We thank the readers for recommending and citing *Mercados y Negocios*, and our editorial team for not giving up in times of hard work.

José Sánchez Gutiérrez
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Globalization and the Human Factor in the Public Service Organization

Globalización y el factor humano en en la organización de servicio publico

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ABSTRACT

The assumption underpinning the push to “shrink the State” may have been that the ongoing globalization of markets had made traditional forms of government intervention in economic sphere redundant and possibly harmful; and that, in any event, markets were more efficient at allocating resources than either politicians or the professional bureaucrats. In my modest opinion, this view though not completely unfounded, takes insufficient cognizance of a subtle, multiple shift which, since the 1980s, has drastically altered the balance of power world-wide: from the South and from the East to the Northwest; from the public sector to private enterprise; and in a number of countries, from organized labour to management. The dominant ideology during the 1980s and 1990s reflected this state of affairs and continues in the 21st Century.

Keywords: Public Service Organization, Globalization of Markets, Human Factor.

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RESUMEN

La suposición que subyace al impulso para “reducir el Estado” puede haber sido que la globalización en curso de los mercados había hecho que las formas tradicionales de intervención del gobierno en la esfera económica fueran redundantes y posiblemente dañinas; y que, en cualquier caso, los mercados fueran más eficientes en la asignación de recursos que los políticos o los burócratas profesionales. En mi modesta opinión, esta visión, aunque no del todo infundada, no tiene en cuenta suficientemente un cambio sutil y múltiple que, desde la década de 1980, ha alterado drásticamente el equilibrio de poder en todo el mundo: del Sur y del Este al Noroeste; del sector público a la empresa privada; y en varios países, desde el trabajo organizado hasta la gestión. La ideología dominante durante las décadas de 1980 y 1990 reflejó este estado de cosas y continúa vigente en el siglo XXI.

Palabras clave: Organización de servicios públicos, globalización de los mercados, factor humano

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INTRODUCTION: SUMMER OF DISCONTENT

The recent beginning of term and opening of schools in Europe and America marked the end of a summer of violence; Man's violence against Man, but also Nature's violence against a fragile ecosystem. In Iraq, Afghanistan, Darfur and Palestine, the killing and the suffering continued unabated, with hardly an end in sight. Extreme weather patterns in Europe brought floods and chilly temperatures in Britain, Norway, and Holland, but extreme drought and heat around the Mediterranean.

The thermometer in Greece hit 47 degrees for many days in a row, provoking forest fires and making 2007 the hottest of the last hundred years. Scores of people died in fires or of exposure and dehydration in lands as far apart as Jordan and Romania.

In the West of England, by contrast, incessant precipitation made this the wettest summer in all recorded history-ever since statistics were kept in the United Kingdom. It was so bad, in fact, that newly-appointed Premier Mr. Gordon Brown, considered cutting short his maiden trip to Washington. He relented, in the end, and visited Camp David. Quite openly, however, his newly-nominated Under-Secretary of State for Foreign Affairs, Mr. M. Malloch-Brown, who previously had served as the United Nations Deputy Secretary-General, voiced doubts that the Bush-Brown relationship would be "joined at the hip like the Bush-Blair relationship had been." (Rutenberg & Lyall, 2007, p. A3)

In trying to explain this statement, Mr. Malloch-Brown remarked that, what is now required, is "to build coalitions that are lateral, which go beyond the bilateral blinkers of the normal partners." More than the stark inadequacy of multilateral structures, events in this past summer have amply demonstrated the dangers and the follies of heady unilateralism.

The disasters in West Asia brought upon by the War and the continued failure by one important government to sign the Kyoto protocol come to mind in this connection. The plight of countless millions from India and Pakistan to parts of Latin America, give the measure of the price that the many have to pay for the failings of the few. What has become apparent is the asymmetry of it all; the long and widening distance the labyrinthine paths that separate the causes of action or inaction from their effects.

Thus, the decisions reached in Washington, D.C. send waves of refugees fleeing Iraq for Jordan. Massive sustained pollution in parts of North America, East Asia or Western Europe is rapidly bringing about the melting of the ice cap in the Arctic and Antarctica, with costly repercussions for Bangladesh, the atolls of the Pacific and even New Orleans.

Small wonder that the title of Joseph Stiglitz's masterpiece, the one that he produced on the heels of the Nobel Award, which he won in 2001, was "Globalization and its Discontents"¹; and that its opening salvo, in a Chapter on "The Promise of Global Institutions" reads: "International Bureaucrats (the faceless symbols of the world economic order) are under attack everywhere" (Stiglitz, 2002).

It took the summit meeting of the G-8 in Germany and a disastrous summer of floods and forest fires to bring home the reality of globalization and demonstrate the fact that the actions or inactions of international agencies (and the governments that run them) carry a heavy toll, which those that end up paying are often least able to afford. Confronted with the floods, which left hundreds of thousands for days without drinking water, Mr. Brown, the British Prime Minister made a direct connection to climate change (Lyll, 2007, p. A4) but also promised that Britain would upgrade its infrastructure, some of which is dating back to the Victorian era. In Greece, the forest fires, brought about by drought and heat, caught the country's public services very largely unprepared.

The government was criticised and has been forced to apologize for inadequate response to the vagaries of nature, that must somehow be countered. Greece is arguably a small country, but inadequate response, on a much grander scale, was evidenced two years ago, in the mightiest country of all, when Katrina struck Louisiana. New Orleans has yet to recover.

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IS GOVERNMENT TO BLAME?

Was government to blame? What government? Which part? Do we expect too much from government and governments? Barely twenty years ago, the answer might be "yes". By contrast in a sharp swing, the 1980s and 90s produced attacks on the State, denigration of "bureaucracy", onslaughts on public service and critiques against "big government", which have subsided somewhat, but have not gone away, certainly not disappeared. What neo-liberal critics of the post-war welfare state and development administration railed against was the magnitude and frequency of "government failures". Accordingly, a new model saw the light of the day, to epitomize "good governance." In line with the World Bank:

The new model requires a smaller state equipped with a professional, accountable bureaucracy that can provide an 'enabling environment' for private sector-led growth to discharge effectively core functions, such as economic management, and to pursue sustained poverty reduction (World Bank, 1994, p.XVI)

¹ A title probably inspired from Sigmund Freud's own "*Civilization and its Discontent*", New York, Norton, 1961.

Allied to implicit faith in private sector capacity to drive the growth agenda, the concept of the “Shrinking State” emerged as a critical element of the “Washington Consensus” (Stiglitz, 2002), which dominated the scene during the early nineties. The model still retained an aura of importance, as the century drew to its close. It loomed large in a report significantly entitled “The State in a Changing World²” (World Bank, 1997), which the World Bank produced in 1997.

Even several years later and in our days, faint echoes of its precepts can still be heard. However, much had changed in the intervening years. Several countries of Africa and Eastern Europe were in the throes of crises, which invited joint World Bank – IMF interventions and the related programmes of structural adjustments, which these carried in their trail. But as against these crises, the world had seen the miracle of the East Asian tigers where, as the Minister put it in her keynote address delivered at the IIAS World Conference in New Delhi, 2002, the government had played a truly preponderant role, almost totally impervious to donors’ conditionalities (Fraser-Moleketi, 2003).

“Hollowing out the State”³ has lost its earlier shine. In large parts of the world, people are waking up to the dysfunctional outcomes of hasty interventions, “shock therapies” and “big bangs” which structural adjustments frequently brought in their trail. High hopes evaporated as highly predictable failures followed the earlier promises of quick success (Hesse, 2000; Newland, 1996). Wholesale privatization and downsizing of the State seldom ushered the Millennium of a “strong civil society participating in public affairs and ... behaving under the rule of law,” prophesied by the World Bank (1994, p.VII). Far from circumscribing the scope of government failures” as heralded, the marketization of government and the wholesale induction of the New Public Management, with a stress on deregulation and decentralization, often exacerbated the incidence of fraud, corruption, failure, arbitrariness and the abuse of power.

The assumption underpinning the push to “shrink the State” may have been that the ongoing globalization of markets had made traditional forms of government intervention in economic sphere redundant and possibly harmful; and that, in any event, markets were more efficient at allocating resources than either politicians or the professional bureaucrats. In my modest opinion, this view though not completely unfounded, takes insufficient cognizance of a subtle, multiple shift which, since the 1980s, has drastically altered the balance of power world-wide: from the South and from the East to the Northwest; from the public sector to

² World Bank (1997) *The State in a Changing World*, Washington D.C., World Bank.

³ Expression borrowed from Carol Harlow, Public Administration and Globalisation: International and Supranational Institution, *Interim Report to the First International Conference of the IIAS*, Bologna, Italy, 19-22 June 2000.

private enterprise; and in a number of countries, from organized labour to management. The dominant ideology during the 1980s and 1990s reflected this state of affairs. There are currently indications of a new swing of the pendulum, but how far it will go and precisely in what direction, it is still too early to tell.

One indisputable trend over the past quarter century is the emergence of transnationals (gigantic corporations in finance, industrial activity, telecommunications, energy and e-commerce) as major political players on the international scene. The former Secretary-General, Mr. Kofi Annan quickly seized on this development and formed the global compact, in an effort to enlist the support and cooperation of the socially responsible among the TNCs for U.N. programme activities. Though, once again, we are talking of new forces taking shape on the international scene, when it comes to global governance, we need to ask ourselves whom precisely these transnationals or other emanations of global civil society may represent; whose interests they promote. With “representativity” a critical concern, come the issues of transparency, accountability and balance in decision making processes on the international scene. Far more than its predecessor, the short lived League of Nations, our own United Nations was from the start conceived as expressing the will of the people.

10 “We the Peoples of the United Nations” are the opening words of the Charter, whose fundamental principles have been reaffirmed as recently as seven years ago in the landmark Declaration of the Millennium Assembly.⁴ Frequently, in our days, a hiatus has been drawn between government and people and between government and governance, as if some contradiction and qualitative difference between the two had not been sufficiently noticed and needed reaffirmation. “From Government to Governance” became a leitmotiv of the New Public Management and neoliberal rhetoric suggestive of a trend or transformational pattern that could be clearly observed throughout the world on the domestic, national and international levels.

“From government to governance” subtly conjured up visions of fully empowered world citizens taking charge of global affairs – a populist pipe dream. Although a distinction exists, the one chiefly referring to an entity and its mandate; the other to an activity, to trace a cleavage between them would be ill conceived. “From government to governance” is clearly not a trend; the one is part of the other; the latter expresses the former. In democratic government, whatever the level of government (national or international) the People must be viewed as both the source of Authority and ultimate justification for the exercise of Power. Implicitly this message is made in the preamble which begins with the words “We the Peoples ...” and concludes by tasking “Governments, through representatives assembled in the city of San Francisco ... to establish an international organization to be known as the United Nations.”

⁴ Resolution A/RES/55/2/8 September 2000.

FROM GOVERNMENT TO GOVERNANCE?

Though the anti-government rhetoric of the 1980s and 90s may have subsided somewhat, faint echoes are still heard in libertarian circles proposing that, in national and international governance, the functions of national governments be narrowly circumscribed and truly counter-balanced by representative groups in global civil society. A more realistic approach would call on national governments, which (with some noted exceptions) enjoy a higher degree of democratic legitimacy than most organizations, private or non governmental, to take charge and provide the needed counterpoise to powerful pressure groups active on many levels. No one should try to limit the freedom of such groups to advance legitimate interests within the bounds of morality and of the Law. At quite an early date, the XIIIth Meeting of Experts on the United Nations Programme in Public Administration & Finance put forward this position adding that, in its view, strong markets and strong states needed and complemented each other.⁵

Complementarity and balance suggest relations of trust, mutual respect and synergy. They imply a win-win partnership, at best. Still, if the rule of law and democratic governance have any meaning at all, those constitutionally empowered to speak for all the People must have the final say. Though this may sound self-evident, it hardly represented the mainstream point of view at the apogee of neo-liberalism, the onslaught against “big government” and the New Public Management’s calls on the public sector to embrace marketization, adopt the language of business and to convert the State to private sector ways. Still some ten years ago, these voices could be heard even within the halls of the United Nations and certainly of the World Bank and the OECD.

To-day, it would appear that, even in the heartland of libertarian thinking, both State and public sector have been granted a reprieve. However, one suspects that this is given conditionally and chiefly on account of pressures from the War and security considerations. Essentially underpinned by neo-conservative thinking, the Bush administration’s approach to government services, and public sector reform continue to subscribe to neo-liberal measures and policy tools. Outsourcing, for example, still plays a major role in such core government functions as conduct of the War. It had been featured prominently in Secretary Rumsfeld’s proposed legislation entitled “The Defense Transformation for the 21st Century Act”, which would allow the Pentagon to hire outside civilians and transfer thousands of jobs to business contractors (Newland, 2007). A noted American Scholar, Professor Chester Newland sees an increasing trend towards the fragmentation of all the public service, both

⁵ Report, E/1997/86, Exec. Summary.

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federal and state, in spite of what he calls the parallel twin trend from Welfare to Warfare and from the Facilitative to the Garrison State (Newland, 2007).

Not surprisingly, the traits through which the Garrison State has manifested itself are the embrace of unilateralism, dislike for compromise and a strong corresponding distrust for multilateral ways in addressing global issues. Although domestic pressures may have had some effect in moving the US Government towards a greater acceptance of the U.N. and multilateral stances, it may be still too early to tell if this will last and will extend to other critical global issues like international trade and climate change. Both on the right and left, sizeable forces are pushing broadly in the direction of closure and of Fortress America. Hopefully, they will not prevail and, even more importantly, such trends in the U.S. may not be replicated other parts of the world (Europe, East Asia, Africa and Latin America) where the United Nations, multilateral approaches and democratic governance find favour and support.

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So what may we conclude from this all too cursory survey of developments regarding the nature of globalization and the public organization? Firstly, that we are not headed (not in the foreseeable future) towards some form of world government. “The case for a global imperium is still made in some quarters. However, both the prospects for global hegemony and the prohibitive costs of the enterprise in human, economic and moral terms make it unrealistic, as well as most unpalatable (Fraser-Moleketi, 2005).

The expression “global village” suggests a palpable truth, as well as lived reality. We live in close proximity, we the nearly 7 billion inhabitants of the Earth, which counted barely two when the U.N. was founded, 62 years ago (Fraser-Moleketi, 2005). But for the rapid advances in science and technology, our life on planet Earth might have turned into a nightmare. However, though biotechnology, as well as the green revolution may have averted famine for billions of humanity, they may have also abetted a number of perilous trends which, under the crowded conditions in which we live, could spell disasters for mankind. Pollution, climate change, as well as the rapid depletion of non renewable natural resources spring to mind in this connection. To argue that technology may have it in its power to mitigate these dangers begs the question why the countries most advanced in this respect are also the greatest polluters, as well as most insatiable consumers of resources in energy, potable water, etc. Is this just a coincidence or does it rather flow from the ability of such countries to export their discontent and buy out from the need to move to change their ways and to reform?

In a recent interview of Kemal Dervis in Athens,⁶ the Administrator of the UNDP revealed that, as we speak, more than two thirds (2/3) of the emissions of CO₂ are produced in a handful of countries, some of the richest in fact, of the Northern Hemisphere. “It would be

⁶ Kathimerini, Sunday 3 June 2007, p.14.

unfair” he added, “that we should ask the peoples of the developing world to shoulder the resulting burden.”⁷ But is this not precisely what happens nowadays in our divided world? Our world is deeply divided – probably more than before – inspite of the rapid advances in information technology, telecommunications and transportation, which have it in their power to bring the people closer. Much has been said and written regarding “global convergence”. It may be a “useful myth” (Pollitt, 2001). Reality, however, tells us a different story. In his keynote address to the recent Athens Conference on globalisation, Kemal Dervis confirmed what the Secretary-General of the United Nations had underscored just seven years ago: “The benefits and opportunities of globalization remain highly concentrated among a relatively small number of countries and are spread unevenly within them.” (United Nations, 2000)

In theory, this condition could easily be arrested (even reversed). Mr. Kemal Dervis again reminded his audience that the world as a whole spent on development programmes only a tenth of the trillion of US dollars that every single year go to military purposes. Does any one remember the “peace dividend” rhetoric on the morrow of the End of the Cold War? What accounts for this ongoing and apparently escalating arms race at times of peace? Arguably, one of the saddest, most wasteful and destructive among the many sidelines of this build-up is the trade in small arms, which floods the African continent and other parts of the world, with cheap and “user-friendly” handguns, that literally are obtainable just around the corner. What the older generation associated with Hollywood and the Wild West has now become the predicament of vast segments of humanity. In Africa, in particular, it accounts for half a million or possibly more “child soldiers”, who work as mercenaries, sowing death and destruction around them but also bringing misery to their poor lives.

Considering the fact that barely a dozen countries account for the bulk of the trade in handguns and small arms, it should not prove impossible to circumscribe the problem and traffic in such weapons. That this has not been done, in spite of years of trying by the United Nations is telling testimony to the significant profits that are garnered by the few at the expense of the many. Regrettably, here also we witness one more symptom of the practice of rich countries to export potential problems, with the downsides of their progress, to the developing world.

It cannot escape our notice that this flourishing arms trade and the proliferation of guns have become a major cause and important contributing factor of crime, graft and corruption, undermining the efforts of government and international agencies for public service reform and socio-economic development. It is hard to escape the conclusion that lack of political will and of counterveiling pressures, rather than the ineffectiveness of institutional structures on the international level, must be viewed as chiefly responsible for the continued failure of globalisation to yield its full potential for the good of the bulk of humanity (Dwivedi, Khator

⁷ Ibid.

and Nef, 2007). *Managing Development in a Global Context*, New York, Palgrave Macmillan.

GLOBAL CHALLENGES FOR GOVERNMENTS

The problems as we've seen, are major global challenges confronting the bulk of humanity, across time zones. Broadly, in line with the conclusions of the Millennium Summit, these are summed up as follows:

- first and foremost climate change;
- secondly deepening poverty in segments of humanity in tandem with a growing and perilous divide between the affluent few and the bulk of the world's population;⁸
- a vast rearmament effort draining the world's resources which could be spent more usefully on welfare and development;
- proliferation of handguns in many developing countries, accounting for vast numbers of mercenary child soldiers and fuelling armed conflicts, breakdown of law and order, political instability and diversion from peaceful pursuits;
- high incidence of crime, abuse of power, corruption and graft, creating a climate of lawlessness and a culture of impunity⁹ with disastrous implications

⁸ From the *New York Times*, Tuesday, August 16, 2007, p.A3.

"Prime Minister Manmohan Singh cautioned Indians against hubris in his annual Independence Day speech on Wednesday and promised a spate of antipoverty measures that hinted at the vulnerabilities facing his government and the nation.

"India cannot become a nation with islands of high growth and vast areas untouched by development, where the benefits of growth accrue only to a few," and Mr. Singh, speaking from behind a bulletproof glass shield at the historic Red Fort."

On the *United States*, see the latest Census Report according to the Editorial "A Sobering Census Report" published in the *New York Times*, Wednesday, August 29, 2007, p.A22.

"Over all, the new data on incomes and poverty mesh consistently with the pattern of the last five years, in which the spoils of the nation's economic growth have flowed almost exclusively to the wealthy and the extremely wealthy, leaving little for everybody else.

Standard measures of inequality did not increase last year, according to the new census data. But over a longer period, the trend becomes crystal clear: the only group for which earnings in 2006 exceeded those of 2000 were the households in the top five percent of the earnings distribution. For everybody else, they were lower.

This stilted distribution of rewards underscores how economic growth alone has been insufficient to provide better living standards for most American families. What are needed are policies to help spread benefits broadly – be it more progressive taxation, or policies to strengthen public education and increase access to affordable health care.

Unfortunately, these policies are unlikely to come from the current White House. This administration prefers tax cuts for the lucky ones in the top five percent."

⁹ On the international level, the United Nations Secretariat Staff Union, on 27 August 2007, resolved to express concern that "*the culture of impunity permeating the higher levels of the Organization, complemented by a dysfunctional internal justice system, continues to deny staff members justice.*" It urged the Secretary-General to "*scrupulously apply the existing standard of conduct and develop a system-wide code of ethics for all U.N. personnel,*" [Res/42/37].

for the political system, the administration of justice, public services delivery and basic human rights;

- growing frequency and intensity of natural calamities and disease of pandemic proportions;
- dismal failure of the world's most powerful and rich nations to meaningfully address these six most pressing challenges; and
- finally an asymmetrical pattern which reserves to very few – some twenty per cent of the world – the bulk of all the benefits of civilisation, of technological progress and globalisation, but also makes it possible for these few to export attendant problems to those least able to cope.

It has already been argued and may be clear by now that challenges and problems, which spring from one part of the world, soon (due to globalization) spread and manifest themselves in other parts of the world. Extreme climatic phenomena, which plagued large parts of Europe during the summer months, or the rapid advance of the desert afflicting the Sahel both may well have their source in far-away East Asia or the North American Continent. Likewise, with the hundreds of thousands which flee the war in Iraq seeking refuge in Jordan, Syria and Saudi Arabia.

Wherever the source of the problems, whatever their configuration, it is the public servants, the public organizations and governments of countries, very often far away, that are left to pick the pieces. These are the unsung heroes who try to cope with crises and, in the midst of these, to improve the public services which will create conditions for sustainable development. In his keynote address, in the capital of Greece, Mr. Kemal Dervis could not have been more explicit. In his view, the proper functioning of public administration and what we call “good governance” are the key to balanced growth, while their absence leads to failure of some countries to create and to sustain conditions, which would favour and promote development and progress.¹⁰

Surprisingly the world, very largely under the influence of Reaganite conservatives and leading international financial institutions, expended time and money during the 80s and 90s disparaging the government, fragmenting and “de-privileging” the public service, ostensibly in the name of fighting “public bureaucracy”. In developing countries especially, where the institutions of government were still in the making, the damage has been grave, accounting for Moses Kiggundu’s description of those years as “lost decades” for Africa. But even out of Africa, in certain parts of Europe, even in Latin America, the blessings of these policies have been extremely mixed. “Rendez-nous notre état!” were the words of Jacques Chirac (1994), reacting to the extremes of these neo-liberal tendencies.

¹⁰ Kathimerini, Athens, op.cit.

Let us hope we've turned that corner because what, in my view, developing countries in Africa and other parts of the world need more than anything else are governments that lead and strong administrative systems that bolster government efforts, and implement the policies with expertise, compassion, intelligence, efficiency, effectiveness and speed. What all developing countries require, as pre-conditions of any further progress, may be summed in two words: capacity-reinforcement or capacity-building.

Allow me, ladies and gentlemen, to spend the rest of the time I have been allocated to giving some details on what this often-used but much misunderstood expression could cover and should mean. Because much has been written and said on the 3Es (economy, efficiency and effectiveness) – too often out of context – I shall elaborate only to make the point that efficiency and effectiveness cannot be considered as “absolutes”. They have meaning and significance within the set parameters of institutional frameworks and given programme goals. We need to know these frameworks and programme goals (indeed their beneficiaries) before expressing views on the virtue of those 3Es. Manifestly then, much more is involved in capacity-building than the quest of the 3Es. Properly understood as deliberate, sustained and balanced reinforcement of the institutional framework for public policy-making and programme implementation, with human resources development and periodically-needed technological upgrading, capacity-building is critical not merely for good governance, but mostly enabling governments to address and overcome the mounting problems and challenges of globalisation.

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As we have tried to show, coping with globalisation pre-eminently means having to deal with problems whose causes or whose source and impact or effect are clearly asymptotic. The rise of avian flu might prove to be in East Asia. Its incidence, however, could be world-wide. Significantly, the countries which will be least affected are those with public sectors well-organized, alert, proactive if required, but always “on the ready” to move and to respond to crisis situation or any other contingency appearing on the ground. By definition, crises are problem situations arising here and now. Above all else, a government and public organizations must be prepared to act judiciously, decisively, equitably and effectively. This is hardly the description of how US authorities (federal, state or local) reacted to Katrina about than two years ago. Like Katrina, the recent forest fires in Greece, the floods in the UK or desertification in major parts of Africa, the problems that a government is called upon to face appear like “acts of God”. They very seldom are. Too often human failure or human greed, somewhere on planet Earth, must take their share of the blame. Others must pick the pieces. Still, inaction is no excuse. Neither a head of government nor public organisation, can shirk their responsibilities.

“THINK GLOBALLY, ACT LOCALLY”

Reaction, effective reaction is always on the ground, which means that we need agencies, duly empowered and competent, close to where the action is. Rightly, subsidiarity has been established as an important principle, as well as a cardinal feature in the EU architecture (Pappas, 1993). Neither globalisation (with the Bretton Woods Institutions or the United Nations as quintessential hubs) nor “regionalisation” or regional integration on the EU or NEPAD models will in any way detract from the need for capacity-building, on the national, sub-national and even local levels.

The opposite, in fact, may be required given the rising pressures and growing interdependencies that these entail (Fraser-Moleketi, 2005). What, arguably, may seem – but only seem – much harder to establish and justify is the case for capacity-building with regards to policy-making, law-making and sound governance on the global or regional levels. Understandably, small players on the international scene – poor countries and small nations – may feel quite overwhelmed, dismally unprepared and, many even unwilling to risk antagonizing major powers or multinationals. Passivity, however, in the face of unilateralism and the abuse of power, is hardly sound advice. Instead, we need to remember the cynical French dictum: “les absents ont toujours tort”¹¹ and need to be reminded of Bismark’s famous aphorism: “Beati possidentes”. The fate of being ignored in international councils is hardly going to change unless it is first challenged. A position of visible weakness will also not be remedied without concerted action by those who have been wronged.

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International relations, during the past half century, have yield many lessons in this regard. The rise but subsequent slide of the Group of 77, after the end of the Cold War, show how much can be gained by countries joining forces around agreed positions, but also conversely surrendered through disarray or failure to build and to promote coherent policy platforms. The recent strides accomplished by the three emerging giants of the developing world: South Africa, Brazil and India, suggest how much is possible given leadership and statesmanship.

Realistically, however, neither will take effect unless we make it happen in public organizations that is the public service and the institutions of government. Let us pause for a moment to ask ourselves precisely what these two weighty terms, so often used in vain, do mean. An answer may be obtained by surveying the world scene, as we have done already, and observing the results of their most notable absence: the continuing wars in West Asia and the global climate change, which a recently published report of some 1500 pages described characteristically as the gravest market failure of our times (United Nations, 2007).

¹¹ “Those absent are always wrong.”

More examples could be garnered to show where we've gone wrong by emphasizing markets to the detriment of government, as if all could be left to the work of "the invisible hand." From the retreat of government, three notable derivatives are present beyond doubt: a pandemic of corruption, the growing asymmetry of power and the skewed distribution of benefits that flow from progress world-wide.

Of corruption, the famous British statesman Edmund Burke rightly said two hundred years ago: "... it takes away the vigour from our arms, wisdom from our councils and every shadow of authority ... from the most venerable parts of our Constitution" (British Council, n.d; Caiden et al, 2001; World Bank, 2007). Burke was addressing the need for public service reform, which came to England eventually from the 1850s onwards.

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Corruption now is everywhere. It fuels the drug trade; supplies armies of mercenaries – many of them young boys and girls; but also without fail, as Edmund Burke remarked, saps the needed credibility and capacity of governments, world-wide and at all levels: global, national and sub-national. In exploring, as we do, the paths to capacity-building and restoring credibility to government, the following must take precedence: combating corruption decisively; reinforcing the cognitive parts in the institutions of government and enhancing certain traits in the manner government works, the public service especially. Of the needed characteristics, integrity, coherence, consistency, transparency, accountability and trust stand out. In my view they represent the core of public servants' essential contribution to democratic governance and the political process. What is more, these are precisely the traits that contribute efficiency and effectiveness in the long run.

Let us linger for a moment on the importance of the long-term, which arguably it behooves our senior public servants to defend against the pressing claims and hyperbolic promises of short-term considerations. Speaking of globalisation, there can be little doubt that, what we seek to address, are mostly long-term concerns. Sustainable development and poverty eradication, in the meaning of the goals of the Millennium Summit, are clearly of this order.

Confronting the effects, on good governance, of escalating disparities and the plight of the urban poor, protecting the ecosystem and safeguarding the next generation from the effects of climate change are long-term considerations, which frequently give way to political expediency. The persistent rearguard action of the petroleum industry in the United States, continuing to deny mounting evidence on the issue of global warming, in an effort to block legislation on this highly important issue, has been too well-documented to be facilely ignored.

The future, the poor and children, all those who have no voice need advocates and spokesmen. More generally, however, the voice of expertise and ethical concerns should regain its rightful place in decision-making processes, whether in policy making or the

management of programmes. “An Inconvenient Truth”(Begley, 2007), which most of us have read or seen on DVD, reminds us all too poignantly of the disasters visited on Planet Earth by mindless profiteers ready to bend the lessons of science and morality to their quest for “quick results”. Lobbies and pressure groups mostly push for “quick results.” Regard for speedy expedients is occasionally the price that the many have to pay for freedom and democracy. But we have gone too far in our quest for quick success, and the dictum “results over process”, (Osborne & Gaebler, 1993, p.19), which we owe to NPM and the Reinvention Movement, may have been accepted too readily as an article of faith.

The effects of this new mindset on the public service ethos have been far from beneficent. Not only has the “focus on results not rules” (Osborne & Gaebler, 1993, p.19), conveyed the wrong impression that laws and rules are expendable; the tenor of pronouncements like “let the managers manage”, “entrepreneurial management” and “management is management”, which came with NPM, played havoc with the concept, the mission and the roles of public service.

Perhaps more than all else, the image and identity of public servants suffered. If what they had been tasked with were jobs of little consequence, essentially indistinguishable from “any other job”, why bother with reform if this were not to cut, downsize and marketize the Service. “Off loading” and “outsourcing” became ideas in vogue and, after Mrs. Thatcher’s epic quarrels with her aides, the role of public servants as key advisers to government experienced a decline. Somehow the idea prevailed that, in the famous words of someone very famous: “You are either for or against us.” Pondered objective advice plainly came at a discount. Deliberately or not, New Public Management logic opened the doors to cronyism and marketization, but also to a return to spoils in many lands. Concepts like impartiality, respect for expert knowledge, professionalism, adherence to due process, and service to the public took a dive in the hierarchy of values.

MERIT, INTEGRITY, KNOWLEDGE & CAPACITY-REINFORCEMENT

The world is paying the price for this regrettable slide. The lamentable performance of people twisting facts in an attempt to “prove” the imminence of danger from WMDs brings into sharp relief the role and need of officers “speaking the truth to power” (Mulgan, 2007). From Continental Europe during the Second World War to apartheid South Africa; from Guantanamo to Iraq, we have seen too many examples of efficiency and effectiveness in the blind pursuit of power and of blind obedience to orders that should have been resisted. These crimes against humanity, too many perpetrated during our own lifetime, should warn us of the dangers of clever panaceas savvily packaged for export and promising the moon.

Even more so this experience, in light of both the prospects and perils of globalisation, ought to lead us to revalue and accord more weight to knowledge and integrity in the whole scheme of governance and of the public service. The link between the two – indeed the implicit equation of wisdom and integrity – have been part of a rich legacy that stood the test of time for close to three millennia, because it is the fruit of global human experience.

The close inter-relationship of learning, integrity and wisdom have clearly underpinned the drive for public sector reform in large parts of the worlds from the 19th century onwards. Not very long ago, a book highlighted their value but also made suggestions on ways to enhance their impact on government and governance. The author was Yehezkel Dror. The title of the book: “The Capacity to Govern: Report to the Club of Rome”(Dror, 2001). As its very title suggest, the author sees “deep knowledge” and “virtue against vices” as critical determinants of “Capacity to Govern”. Not so for NPM. In spite of much lip service, they seem to be reduced to one denominator “competencies”, and simply evaluated in terms of their effects on output and results. But even Peter Drucker, “the American Arch-Guru of Capitalism”, as he is sometimes called (Aucoin, 2001) took a similar position that plainly measured knowledge in utilitarian terms:

“Traditional knowledge” he wrote, was general. What we now consider knowledge is of necessity highly specialised ...what we now consider knowledge is information-effective in action, information focused on results. These results are seen outside the person – in society and the economy, or in the advancement of knowledge itself.” (Drucker, 1993)

An attractive proposition, one might argue, if it were not belied, in practice, by results which have too often proved self-serving and pernicious, precisely on account of being one-sided and short-term. We should ask ourselves instead whether over-specialisation, of which New Public Management itself has been a product, does not, in actual fact, produce a closeted mind and one-dimensional thinking. Is this good preparation for complex problem-solving on either the domestic or international fronts?

Instead of reducing the world (or indeed our own society) to its most simplistic expression and all the issues of governance to those of applied economics, should we not rather look for broadly-gauged approaches and more constructive strategies? Instead of the narrow perception of “my station and its duties”, which a closeted career often tends to cultivate, should we not rather encourage mobility and, through movement, versatility and the readier acceptance of change? Should we not foster attitudes, among our senior cadres, that actively welcome diversity, internalise complexity and consciously adopt a balanced, inter-disciplinary approach to most of what they do? We hardly need reminding that most of the problems of governance (on the national, sub-national or international levels) are of this nature; that, with all due respect to NPM proponents, “management is seldom management, if such a thing existed in pure form. It is also law, economics, psychology, sociology, ethics, political science and now information or knowledge management.

Public administration, which all in senior management claim as our common field, is made of all these disciplines or, to be more precise, lies at the intersection of them all. A sound appreciation of their interconnectedness and where they interface -- not the unattainable mastery of all these fields -- is needed. The need can best be addressed through an appropriate mix of career development policies and in-service training. Speaking of career development, the principal objective, as has already been argued, is that of counteracting departmental chauvinism and other forms of bigotry, which all too often grow after long years of service in a single narrow slot and thus tend to undermine the “we-ness”, synergy, sharing and close cooperation which are sine qua nons of sound effective governance, national or international.

Mobility is the vaccine that keeps us from stagnating. Accompanied by training, it sheds light on the dictum “training as life-long learning”. Under the right conditions, it helps us welcome challenge; turn challenge into opportunity. But more than anything else, mobility helps shape our sense of duty and loyalty as senior public servants; not only to our department, but chiefly to the values of our profession and to the public interest – national or international.

Training is life-long learning; a vehicle for growth and for career development. Effectiveness in training – needless to emphasise it – requires a proper balance of the thematic content, approach, technique and method. Overtime, as we have seen, the weight accorded to substance, but also the meaning of knowledge have drastically changed as new technologies surfaced and work-related skills acquired new salience. Not only specialisation has prevailed over general knowledge, but also “how to” competencies sharply risen in importance, recasting goals in training and criteria in the selection and advancement of government officers. We may have overprized the short-term utility and instrumental value of knowledge, neglectful of its substance and its intrinsic worth.

To close this presentation, let me suggest it’s time to revisit the profile of the Senior Public Service with a view to capacity-building. Rapid change across the board, sprawling areas of uncertainty with increasing interdependencies in the wake of globalisation and/or regional integration call for decisive action to strengthen the core structures of government and of the public service. Priority, in our view, must go cognitive skills and to “the thinking arm” or “central minds of government”(Dror, 2001). These are functions that a government outsources at its peril. Of course, it should be added: self-reliance comes at a price.

We need to arrest the erosion, indeed to move decisively to upgrade the public service. Although this may seem difficult, it is a feasible project, whose beneficial impact will spread throughout society, the country and the Continent. What it calls for primarily is revaluation of merit, with knowledge and integrity much closer to the top in our hierarchy of values and the respect for knowledge much higher on this scale. Coping with globalisation, coping with it effectively and making the best of developments demands that we reach out and try to

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embrace the world in all its great diversity. It calls for the understanding of problems, whose complexity is often compounded by distance and the varying vantage points from which they may be observed. We ought to address these problems both with an open mind and with the firm conviction that we must find solutions which will not mortgage the future, but bring the best of available knowledge and institutional memory to the service of the long-term, the long-term public interest, national and international.

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Banking innovations and their effect on profitability

Innovaciones de la banca y su efecto en la rentabilidad

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ABSTRACT

This research seeks to answer these questions by analyzing multiple empirical articles carried out at different times, in different countries, and with various innovations. The research is divided into three sections: first, it presents a chronology of the evolution of banks, their main innovations, and events that have modified the banking business model to adapt it to banking today. The second is based on bibliometric tools to present the primary references of the articles that analyze the relationship between innovation and bank profitability and its conceptual structure. Finally, the third section analyzes the concept of branchless banking and its factors. Three findings stand out: 1) according to the empirical literature consulted, it is concluded that innovation does affect profitability, 2) publications have grown in recent years, with China being the most productive country and the United States the most influential, and 3) The concept of branchless banking is a viable alternative to measure innovation in the Mexican banking sector.

Keywords: Innovation, Profitability, Branchless banking, Adoption.

JEL CODE: O330



RESUMEN

La presente investigación busca contestar estas interrogantes mediante el análisis de múltiples artículos empíricos realizados en diferentes tiempos, distintos países y con diversas innovaciones. La investigación se divide en tres apartados: primero presenta una cronología de la evolución de los bancos, sus principales innovaciones y sucesos que han modificado el modelo de negocios de la banca hasta adaptarla a la banca en la actualidad. El segundo, se apoya en las herramientas de la bibliometría para presentar los principales referentes de los artículos que analizan la relación entre la innovación y la rentabilidad bancaria y su estructura conceptual. El tercer apartado analiza el concepto de banca sin sucursales y los factores que lo componen. Se destacan tres hallazgos: 1) de acuerdo con la literatura empírica consultada se concluye que la innovación sí tiene efecto en la rentabilidad, 2) crece las publicaciones en años recientes, siendo China el país más productivo y Estados Unidos el más influyente, 3) el concepto de la banca sin sucursales es una alternativa viable para medir la innovación en la banca mexicana.

Palabras clave: Innovación, Rentabilidad, Banca sin sucursales, Adopción.

INTRODUCTION

Commercial banks, like for-profit companies, aim to maximize their profitability. The scientific literature that addresses the determinants of bank profitability is extensive, and researchers classify the factors that affect profitability into internal and external factors (Misra, 2015; Neves et al., 2020; Rahman et al., 2020). A third category is market factors. Among the investigations that use this classification are: Adrianzen (2016), Dietrich and Wanzenried (2011), and Mirzaei et al. (2013).

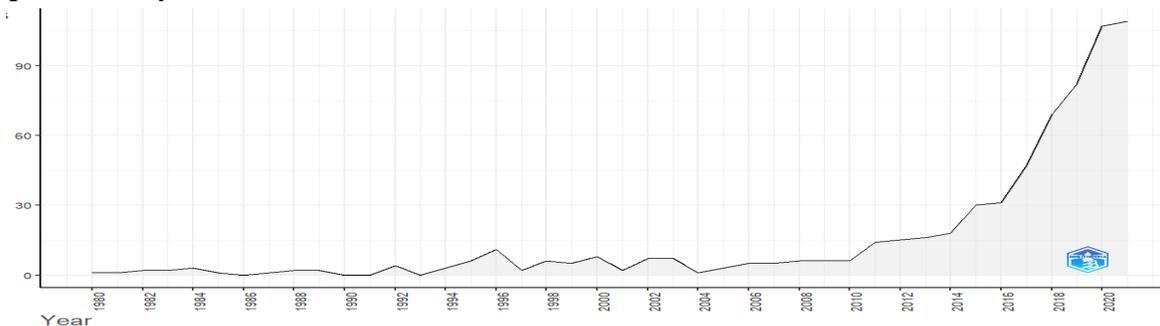
The internal factors evaluate the performance of bank management, such as risk, liquidity, efficiency, and operability, among other indicators. Market factors include the size of banks, competition, monetary policy, bank ownership, Etc. Finally, in the category of external factors are determinants such as macroeconomic variables such as inflation, gross domestic product, and central bank interest rates. Likewise, in this classification is the performance of the stock markets and the trend of new technologies.

Furthermore, it is precisely on the factor of new technologies on which this study is based, on analyzing the influence of technological advances, which we will call innovation from now on. The literature has confirmed the importance of innovation and its impact on the performance of an entity. This research recounts the main innovations in the banking sector, the studies that analyze their relationship with banking profitability, and the adoption of these innovations by the Mexican banking sector during the period 2011-2021.

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In recent years, there has been an increase in publications that analyze the relationship between innovation and banking performance, as seen in graph 1. The increase in publications in recent years is due to the attention given to financial innovation since the 2008 financial crisis (Khraisha & Arthur, 2018).

Graph 1. Articles analyzing the relationship between innovation and bank profitability



Source: Own elaboration with data obtained from the Web of Sciences portal.

Innovation in the banking system is approached in this research from the Schumpeterian perspective of creative destruction, which is defined as a dynamic production system in permanent evolution and periodically dominated by waves of innovation (Montoya Corrales, 2012).

More specifically, the concept is specified from the point of view of the banking sector, and Alvarez (1993) defines it as the adequacy of supply to customer and market demand. Khraisha and Arthur give a broader definition of financial innovation and define it as a process carried out by any institution which involves the creation, promotion, and adoption of new (including both incremental and radical) products, platforms, and processes or an enabling of technologies that introduce new ways or changes in the way of carrying out a financial activity. These definitions adjust to the current situation of the banking sector and its tendency to invest more in alternative channels to physical branches as digital users demand.

For these users normalized with technology, their consumption habits have changed in the last decade, and it is expected that before making a purchase decision, they look for a reference in social networks of previous experiences and thereby reduce the risk (Han & Jun, 2021; Jiménez-Barreto & Campo-Martínez, 2018).

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The scientific literature has not been oblivious to this new trend of obtaining everything with a single click and has carried out research that analyzes the adoption and behavior of these digital user consumption habits that range from transportation with applications such as Uber and Blablacar to ordering food delivery, Uber eats, Rapid, DiDi Food, Etc., and even trust that an algorithm can make better decisions to find a partner with applications such as Tinder (Amin et al., 2020; Bueno et al., 2017; Rita et al., 2021; Willis & Tranos, 2021).

The banking sector has also adjusted to this trend of digital services; the payment of services, credit cards, and money transfers, among other services, can be done without having to be in a branch. Among the alternatives that banks offer are internet banking, ATM, and banking correspondents, in addition to the fact that more and more businesses accept non-cash payments, such as payments with bank cards, electronic transfers, digital code payments, CODI, and even cryptocurrencies like Bitcoin.

Among the main benefits that users obtain is having access to carry out transactions at any time and from any place with internet access, contract credits, or other instruments from different devices, among others that improve the user experience (Bueno et al., 2017; Jebarajakirthy & Shankar, 2021).

The proliferation of alternative access points to branches is not new, the banking sector has been characterized by its ability to adapt to constant changes, not only technological but also political, economic, and social, and this has allowed it to evolve and provide its users with experiences according to the innovative environment that we live in these times and that is hardly found in other sectors.

To cite a few examples, in the last decade, mobile banking, the adoption of identity verification by biometric data, Blockchain technology, and Artificial Intelligence in various processes, among other innovations, have become popular. To reach this moment and consolidate themselves before society as institutions with recognition and trust, banks have traveled an ancient path that has not been free of obstacles according to the times, places, and culture in which they carried out their operations.

This research recounts the main innovations in the sector, in the adoption of the Mexican banking sector, and its relationship with profitability. The article is presented in three sections: the first recounts the most important events and innovations throughout banking history. In the second section, a bibliometric of the studies that analyze the relationship between innovation and banking profitability is carried out. The third section refers to the term branchless banking groups banking innovations of access points outside the traditional business model of branches, and finally, the conclusions are presented.

EVOLUTION OF THE BANKING SECTOR

Old history

The first signs of banking date back to the 7th century BC. in the Red Temple of the city of Uruk; in ancient Babylon, the priests were the first bankers. People deposited their assets for safekeeping and the new bankers, backed by their excellent image, lent them guarantees (Tristán, 2015). There is evidence that Babylonians used writing, contracts, promissory notes, mortgages, and pledges, other civilizations, such as the Egyptian, Greek, and present Roman, have evidence of banking activities (Villegas & Ortega, 2002)

Among the regulations that have stalled the expansion of banks is the promulgation of the XII Tables during the Roman Empire that prohibited the charging of high interest to debtors, protecting them and providing them with the minimum guarantees for the satisfaction of their credits (Salazar, 2004). Also, during feudal times in Europe, the church prohibited charging interest to the poor (Gutiérrez, 2019).

It was not until the 14th century, during the Renaissance, in city-states such as Genoa and Venice, that banking activity regained its importance, generating great fortunes in families such as the Medici. The discovery and colonization of America, the consolidation of the

Banking innovations and their effect on profitability

European States, and the international commercial expansion through oceanic routes, in addition to the current economic thought of mercantilism and excess credit, impact banking functions and force banks to create new financial instruments such as the exchange transfer (Guerra Martínez, 2002).

An important innovation in the means of payment was the check. There is a record that this instrument was used in the 16th century in Italy, Spain, and Holland. Among the advantages of using the check are the ease of collecting it and the certainty it gives the person who received it (del Ángel, 2019). Another event of great relevance in the financial sector was the creation of the first stock market as a legal institution, born in Amsterdam, the Netherlands, in 1602 (Stringham, 2003).

During the Renaissance, Fra Lucca Paccioli incorporates double entries in the register of the financial situation. In the centuries after the Renaissance, the mercantilist and physiocratic currents of thought established their vision of trade between nations. The financial system was a preponderant player that promoted significant innovations during the industrial revolution, and internally, banks created new and attractive instruments.

30 Financial instruments are not only issued for companies but also the countries' governments, such as the issuance of bonds (Ferguson, 2008). In the second part of the 19th century, the first banking institutions were established in Mexico; the Bank of London was of English origin, the first to come into operation in 1864.

This bank not only carried out its usual operations, attracting deposits and granting loans to its clients but also, among its functions, stood out in the issuance of paper money and banknotes, which were accepted in large part of the national territory. The function of granting credit prior to banks' incorporation was mainly granted by religious orders (Turrent, 2008).

The 20th century

The evolution of banks during the 20th century has been radical, both in theoretical and operational terms. In the first decades and an environment of mergers and the growth of monopolies in various sectors of the US economy, finance ceased to be a branch of economics. Instead, it consolidated as an independent area with its theories and models.

Faced with a changing and high-risk environment, the Federal Reserve acquired greater power to regulate the banking system; among its leading powers was to force banks to deposit their reserves in its coffers and to act as lenders of last resort. Meanwhile, European banks operating in an environment of recession and reconstruction caused by the First World War adopted the Universal Bank model to finance businesses and rebuild their countries' economies and infrastructure, achieving stability in the following years. Their central banks

acted differently, defeating countries such as Italy and Germany with a greater economic impact and, therefore, a more significant intervention (Jácome, 2002).

In 1929, the New York stock market collapsed, caused partly by uncontrolled credits granted by banks, and invested in the stock market, in addition to the evident conflict of interest of the commercial banks themselves that were buying and selling assets. The speculative bubble burst on Thursday, 29 October and the consequences for the US banking system were the failure of 11,000 banks. The financial crisis turns into an economic crisis with high unemployment.

The US government, led by President Franklin D. Roosevelt, passed a law to separate commercial and investment banking activities and prohibited commercial banks from underwriting, holding, or trading corporate securities, either directly or through securities subsidiaries. These regulations helped to cushion the impact on banking during World War II (Kroszner & Rajan, 1993). European banks responded with various strategies, including providing state guarantees to stimulate the interbank market, recapitalizing banks with public money, and creating bad banks to remove troubled assets from banks' balances (Bordo & James, 2011).

The 1950s and 1960s are considered the heyday of capitalism. The United States established itself as the world power, and the reconstruction of Europe and Japan and the growth of production overpopulation resulted in a 5.4% increase in GDP from 1948 to 1971.

Japan was the most prominent country in that period, with a growth of 9.4% between 1953 and 1965. Among the factors driving this performance was the relationship between banking and its emerging industry (Aparicio, 2014). Along with economic and technological growth, competitive pressures, and market changes, financial theories, models, and related fields such as working capital and cash flow management, optimal allocation of resources, expected returns, measurement and projection of operating costs, capital budgeting, formulation of the company's financial strategy and the theory of capital markets are developed (Flóres, 2008).

Credit Card

It was in 1948 that US banks began to issue credit cards for their most solvent customers, being in the fifties when more than 200 US banks adopted this innovation. Private companies such as Diner's Club Inc. and American Express were also developed, which extended their network to several countries. In Mexico, although commercial establishments such as Puerto de Veracruz S.A., Palacio de Hierro, and Puerto de Liverpool S.A., among others, used credit cards in the '50s, among the banks, Banamex was the first bank that implemented the granting of credit in this modality. However, it was until 1968 (Acosta, 2000).

Banking innovations and their effect on profitability

Among the first investigations that analyze the relationship between credit cards and banking, profitability is the one carried out by Sinkey and Nash (1993), in which financial institutions specialized in credit cards are compared with traditional banks in 1984 and 1991. It is concluded that the returns of the former, measured by the ROA indicator, were extraordinary, although with more significant variability and insolvency; that is, they are riskier than traditional banks.

Graph 2. Comparison of Credit Cards between countries for every 10,000 adults



Source: Prepared by the authors with data from the International Monetary Fund, Financial Access Survey, 2019

32 In Mexico, the research carried out by Trejo-García et al. (2014) stands out in which they propose an improvement for the current model used by the CNBV for the selection of credit card users to predict default, minimizing the creation of provisions and increasing the profitability of financial institutions and meeting national and international regulatory requirements. The penetration of this financial instrument in our country compared to other countries is observed in Graph 2.

The second half of the 20th century

The economic growth trend of past decades ended in the early 1970s. Economic recessions characterized the following decades. Among the events that caused this scenario, the following stand out 1) devaluation of the dollar by removing the gold standard, 2) crisis between the Organization of Petroleum Exporting Countries (OPEC) and the United States, given their support for Israel in the conflict with Syria and Egypt and 3) inflation in the United States due to the high deficit of the trade balance due to the overvaluation of the dollar (Aparicio, 2014).

Prior to this environment of economic crisis, dollars were abundant in the capital market; Mexico, like several countries, contracted debt in dollars at competitive rates, but that scenario changed in 1982 when the Federal Reserve modified its monetary policy by going from its interest rate -11.2% in 1977 to 16.8% for 1982.

This adjustment causes Mexico to find itself suddenly in a scenario of unpayable foreign debt. Consequently, the intervention of the Bank for International Settlements (BIS), the International Monetary Fund, and the United States was necessary to restructure Mexico's debt in exchange for the country making structural adjustments, with high unemployment and a contraction in economic growth part of the consequences (De Olloqui, 1984).

Between the decades of the 70s and 90s, characterized by global financial turbulence mentioned above, the development of banking did not stop and created technological innovations. Fanjul and Valdunciel, (cited in Avendaño, 2018) divide this period into four stages. 1) In the sixties, there were no technological advances, and the banks' priorities were to increase productivity, reduce costs and increase security. 2) During the 1970s, teleprocessing was introduced; this system allowed users to carry out banking operations by telephone. 3) In the 1980s, new access points were introduced that allow the user to carry out operations outside the bank. Some examples are the consolidation of ATMs and the increase in businesses that accept payment by credit card. 4) In the nineties, the adoption of virtual banking begins. Unfortunately, the implementation begins with the banks' internal networks (intranet) and presents vulnerabilities and security deficiencies.

Automatic Teller Machine (ATM)

With the advancement of new information technologies, retail banking competes with new alternative channels to the traditional business model of banks based on the number of branches. The first innovations that allowed financial users to carry out transactions outside the bank branch took place in the seventies. They were the appearance of electronic teller machines, Automatic Teller Machine (ATM). However, the first ATM was installed in June of 1967 on the street in Enfield, London, in a Barclays bank branch; it was not until the following decade that its use became widespread (Batiz-Lazo, 2009).

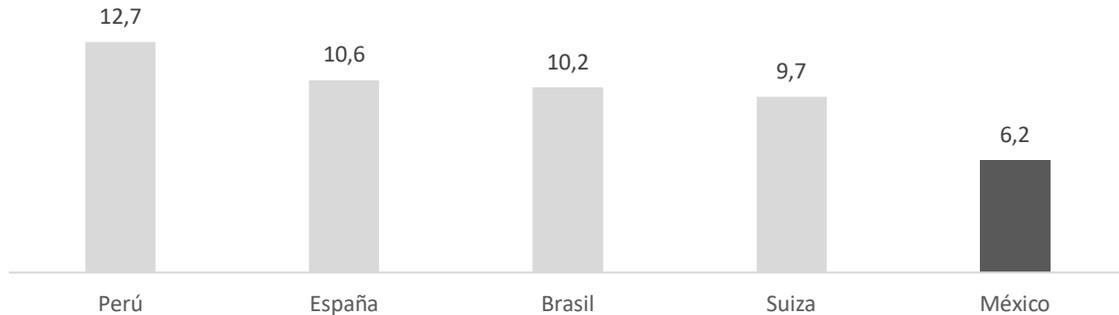
ATMs changed the business model of the banking sector; their incorporation into the market went from being a competitive advantage in its early years to a minimum requirement for competition among retail banks. As a result, ATMs have become an essential service that other banks can easily replicate. Janet Hartung, Mellon Bank Senior Vice President and Director of Network Services, agrees that these systems are essential but have limited competitive advantage: "Competitive impact? ATMs are important not to lose market share, but no quota is captured (Clemons, 1990).

Some studies that analyze the relationship between these and profitability are mentioned. Based on data from US banks, Massoud et al. (2003) analyze the relationship between ATMs and bank profitability and find a direct relationship between the additional charges for using ATMs and bank profitability. Itah & Emmanuel (2014) study Nigerian banking in which they examine the effect of ATMs, points of sale, and transactions through the Internet on bank profitability through a method of multiple regression analysis by ordinary least squares. The

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result showed that ATMs and points of sale are positively related to ROE. Graph 3 compares ATMs in different countries and shows a lag in Mexico.

Graph 3. Comparison of Mexico with other countries in ATM per 10 thousand inhabitants.



Source: Prepared by the authors with data from the International Monetary Fund, Financial Access Survey, 2019

Other innovations have impacted the banking sector: process automation, telemarketing, and debit cards, among others, occurred in the last two decades of the 20th century. The internet era in the banking system began in 1994; Stanford Federal Credit Union in California was the first credit institution to offer services through an internet page (del Ángel, 2019), thus beginning the era of digital banking. In 1998, Banamex was the first Mexican bank with an Internet site.

BANKING IN THE 21ST CENTURY

The new century coincides with the positioning of new native Internet companies. Search engines and the birth of social networks provided an environment conducive to innovating in traditional businesses. Amazon in commerce, Airbnb in travel, Netflix in entertainment, and Uber in transportation, are examples of the changes in business models driven by the internet.

The financial sector is no exception. Given the opportunity provided by the new digital environment, platforms and applications are being developed to facilitate payment systems and access to financial products and services. Banks are not the first to innovate; the first generating agents of this transformation were the Fintechs. Among the main advantages that Fintechs present that allows them to innovate before large credit institutions are their orientation to solve a specific problem and greater flexibility, functionality, and human capital aligned to technology.

Schueffel (2016) highlights that among the numerous and disruptive innovations that have taken place by Fintech are internet banking, mobile payments, collective financing loans

between individuals (lending), online identification, Etc. Given this scenario, during the first decade of the new century, banks see the need to improve their distribution channels per the growing evolution of Information and Communication Technologies (ICT).

Online bank

Internet banking is the proposal of the big banks that allows its users to carry out their operations at any time from their cell phone or computer with Internet access, improving their experience. Bueno et al. (2017) mention that the growing adoption of these innovations can be explained by two factors interacting. The accelerated change in operating processes and marketing channels and the sociocultural change arising from the new digital society is carried out by two generations, the millennials and the centennials.

Many empirical studies analyze the adoption of Internet banking. Among the most cited is the one by Tan & Thompson (2000). They conclude that among the main factors that explain the adoption of Internet banking on the internet, there is social influence, the perception of having a relative advantage, compatibility, the possibility of trying, and additional support from the government of Singapore to promote electronic commerce.

Furthermore, the adoption of internet banking services in Hong Kong is analyzed by Chan & Lu (2011). In this research, the authors evaluate the intention to use internet banking either because of its perceived utility or ease. The results reveal that the most important factors are: 1) computer self-sufficiency, that is, if the user believes they can use a device, and 2) subjective norm, which refers to whether a prominent character considers using internet banking.

Mansumittrchai & N. AL-Malkawi, (2011) analyze Mexican financial users and their attitude towards adopting internet banking. Among his findings, he mentions the two factors that have the most significant impact on users who refuse to use Internet banking: 1) insecurity and 2) the preference to have contact with a human to carry out their transactions.

Faced with greater competition and the consolidation of ICTs, the second decade of the century begins in an environment marked by greater regulation; because of the US mortgage crisis of 2008, Fintech and larger commercial banks opt for uniting their efforts in joint projects. The former provides alternative proposals that contribute to the transformation of banking to the digital age, and the banks support financing the projects that the Fintech companies alone could not achieve (Igual, 2018).

Mobile banking

The development of access channels continues to evolve and consolidate among the population. The banking application for mobile devices is perhaps the most widely accepted banking innovation. Mobile banking began in Mexico with pilot plans in 2007, Banco Azteca and Bancomer being the first (del Ángel, 2019).

This application is consolidated as one of the main access channels among Mexican users in the following years. According to data from the National Banking and Securities Commission (CNBV), account holder contracts with access to mobile banking went from 162,442 in 2011 to more than 63 million in 2021.

The data produced by the National Survey on the Availability and Use of Information Technologies in Households (INEGI, 2021) put the adoption of mobile banking by Mexican users in context. In 2020, in Mexico, there were 88.2 million cell phone users, 91.6% being smartphones. In addition, 21.7% of users carry out banking operations, higher than 16.8% in 2019.

36 The average age of Mexicans can explain the acceptance of mobile banking in 2020 which is 29 years old, according to INEGI data. In his research on the adoption of mobile banking, (Gutiérrez, 2020) mentions the characteristics of the application users in Mexico and Portugal. He concludes that the profile of users in Mexico are young people with an advanced level of education, an upper middle income, knowledge of technology, and who have a good image of the innovation they are adopting.

Among the studies that analyze the relationship between mobile banking and profitability is the study by Mutua (2013). The author analyzes 43 commercial banks with mobile applications and six cell phone service providers. As a result, she finds a positive, albeit weak, relationship between mobile banking and bank profitability, as measured by the ROA indicator.

For their part, Medyawati et al. (2021), through a data panel, analyzes the relationship between Indonesian banks and access channels such as ATMs, mobile banking, and internet transactions. It concludes that mobile banking and internet transactions positively affect profitability, measured by ROA. On the contrary, Dedeh Sri Sudaryanti & Nana Sahroni (2018) conclude that the ROA indicator of banks listed on the Indonesian stock exchange negatively affects their relationship with mobile banking.

Banking correspondents

Another innovation that financial users and commercial banks have very well received is the commission agent model. This model is mainly used by developing countries with a large territory and a significant difference in terms of wealth, with Brazil and Kenya being the primary references.

This model is promoted by international organizations such as the World Bank and local governments to increase the financial inclusion of their population. The CNBV defines bank commission agents as natural or legal persons with a business relationship with credit institutions, allowing them to act on their behalf and offer products and services to customers, acting as if they were them, obtaining payment. Commission for each transaction made.

Correspondents, as they are also known, have growing participation in the country's financial system; each year, financial users carry out more banking operations in these establishments: in 2011, 80.51 million were carried out, and by 2021 the total number of transactions was 518.48 million, being its growth of 544% in that period.

Several countries around the world use the commission agent model. Brazil is the first Latin American country to adopt this model. In 1973, the Central Bank of Brazil authorized commercial banks to contract with third parties for the sending and receiving of payments, as well as the collection of checks. The figure of correspondents allowed this country that millions of citizens could have access to banking products and services. By 2005, 10 million users used banking correspondents, and in 2010 there were 151,958 correspondents in that country (Reyes, 2020). (Graph 4)

Graph 4. Comparison of correspondents per 10 thousand adults.



Source: Prepared by the authors with data from the International Monetary Fund, Financial Access Survey, 2019

In Mexico, the increase in this channel is due to the strategies of banks to have new access points for their users, in addition to the expansion of chains such as Oxxo, which adds new stores every year. In addition to the strategies of the correspondents, another critical factor

Banking innovations and their effect on profitability

that explains the acceptance of this model is the high cost for banks of opening a branch in a distant town, such as the border areas of large cities and towns.

Nevertheless, not all countries approve of the correspondent model; India is one of them. Among the reasons not to approve the use of third parties to handle cash on behalf of a bank is the risk of fraud and theft. For example, the Reserve Bank of India prohibits deposit and withdrawal transactions from savings accounts that can only be handled by bank employees or ATMs (Ivatury, 2006). The World Bank has also pointed out risks in this model; its report, *The Decline in Access to Correspondent Banking Services in Emerging Markets: Trends, Impacts, and Solutions*, mentions the risk that banking correspondents are used for money laundering and terrorist financing (WB, 2021).

The installation of two access channels, mobile banking, and banking correspondents in rural Kenya, is studied by Irura and Munjiru (2013). The main findings show that the main factors that would encourage the adoption of these financial innovations are the improvement and guarantee of security, reliability, trust, and the improvement of the propensity to take risks by SMEs that adopt the technology. In addition to the improvement in the political framework, and the telecommunications infrastructure, among others.

38 Kenya has a large amount of research that addresses this issue (Irura & Munjiru, 2013) are some of the publications that analyze banking correspondents as a factor that drives the performance of commercial banks. For example, Mwangi addresses the relationship between commission agents and bank profitability; the author analyzes innovation's effect on banks' performance in Kenya. He concludes that the relationship positively affects financial performance and is expressed in the increase in profitability; with a more significant number of correspondents and a greater volume of transactions, the performance increases. Also, in Kenya, an empirical study is being carried out that analyzes 17 banks that have banking correspondents. This research concluded that the increase in the number of commercial bank agents leads to higher financial performance, so there is a positive correlation.

So far, the evolution of banks has been described; the essential innovations, their adoption, and the relationship with bank profitability if there is empirical research. The following section refers to studies that measure banking innovation as a variable with multiple dimensions. Empirical research is mentioned that relates banking profitability to the term innovation, emphasizing the term branchless banking.

ANALYSIS OF THE LITERATURE THAT ANALYZES THE RELATIONSHIP BETWEEN INNOVATION AND BANK PROFITABILITY

In recent years, the publications that study the relationship between innovation and bank profitability have increased. This section analyzes a database of 646 publications from the Web of Sciences (WOS) portal. The most influential elements in this field of knowledge are identified through the elaboration of tables, graphs, and scientific maps. The database is obtained with the advanced search of $TI = (\text{bank} * \text{OR banking AND profit or profitability})$ AND $TS = (\text{Innovation})$.

They are filtered by articles and magazines on finance, economics, administration, and business to obtain a more precise result. In addition, debugging is done in the final database by concatenating words with a similar meaning, for example, banks, banks, or the banking sector. The RStudio program and the Bibliometrix application are used to process the database. The tables of the most significant elements are journals, countries, authors, and articles. In addition, a scientific map of co-words is presented, which aims to understand the conceptual structure of this field of knowledge.

Among the results obtained, high-impact journals publish research on the subject. Of the ten journals that publish the most, seven are from the first quartile, Q1, and the remaining three are from Q2. The American journal *Technological Forecasting and Social Change* has the most publications and belongs to quartile 1. (Table 1)

Table 1. Journals that publish the most the relation Banking Profitability and Innovation

<i>Journal</i>	<i>Articles</i>	<i>Cites</i>	<i>H-index</i>	<i>Country</i>	<i>Quartil</i>
Technological Forecasting and Social Change	28	606	13	United States	Q1
Marketing and Management of Innovations	24	104	5	Ukrania	
Journal of Banking & Finance	14	407	9	Netherlands	Q1
Journal of Business Research	13	602	9	United States	Q1
Research Policy	11	494	8	Netherlands	Q1

Source: Own elaboration with data from the Web of Science

The most influential article by the number of citations is “Relational embeddedness and learning: The case of bank loan managers and their clients”, which has 576 citations and was published in 2003. In second place is the publication “New service development competence in retail banking: Construct development and measurement validation”. This 2007 *Journal of Operations Management* article has 238 citations. (Table 2)

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Table 2. Most influential articles

<i>Article</i>	<i>Author</i>	<i>Journal</i>	<i>Cites</i>
Relational embeddedness and learning: The case of bank loan managers and their clients	(Uzzi y Lancaster, 2003)	Management Science	576
New service development competence in retail banking: Construct development and measurement validation	(Menor y Roth, 2007)	Journal of Operations Management	238
The Economic Effects of Technological Progress: Evidence from the Banking Industry	(Berger, 2003)	Journal of Money, Credit, and Banking	189
Cell phone banking: Predictors of adoption in South Africa - An exploratory study	(Brown et al., 2003)	International Journal of Information Management	148
Funding gaps? Access to bank loans by high-tech start-ups	(Colombo y Grilli, 2007)	Small Business Economics	140

Source: Own elaboration with data from the Web of Science

China has the most publications, with 387 articles and 3,243 citations. The United States follows it with 296 publications, the most influential with 7,585 citations. The United Kingdom occupies the third place with 147 publications and 1088 citations. Among the institutions with the most publications are four from China and one from the Netherlands. The Southwestern University of Finance and Economics of China is the most productive institution, which has 20 publications.(Table 3)

40

Table 2. Most productive countries and Institutions

<i>Country</i>	<i>Articles</i>	<i>Citations</i>	<i>Institutions</i>	<i>Articles</i>	<i>Country</i>
China	387	3242	Southwestern University of Finance and Economics	20	China
United States	296	7585	Beijing Normal University	19	China
United Kindom	147	1088	Universidad Erasmo de Róterdam	15	Netherlands
Italy	107	920	Xiamen University	14	China
Germany	80	968	Peking University	13	China

Source: Own elaboration with data from the Web of Science

The scientific map in Graph 5 uses the Louvain algorithm that identifies standard features between elements to form communities or clusters. In the analysis of co-occurrence or co-words, as it is also known, the use of two words in a higher unit (document) is identified. A dependency relationship is presumed if there is a strong relationship, which we identify with the number of links and closeness of the labels. The centrality and size of the tags help us identify the most influential words. These word relations define the conceptual structure of the field of knowledge.

The results obtained group the keywords into 4 clusters. Color helps us identify words that have elements with similar characteristics and thus form a community. The size of the circles and labels are associated with the occurrence of the elements, the larger the size, the greater the importance. To identify the clusters, a label is assigned that is the word with the most occurrences of each group of words, being as follows: Research and Development, Determinants, Adoption, and Performance. They are briefly described to specify the focus of the investigations of each cluster.

Graph 5. Scientific map of co-words of articles with the terms bank profitability-innovation



Source: Own elaboration with data from the Web of Science

The cluster with green nodes has as its central word the words Research and Development and the words with which it has a significant relationship: productivity, investment, competition, knowledge, and growth. The red cluster has determinates as its central word and is related to technology, management, product, and information, among others. The blue cluster is in the central part of the network, the word adoption, and is related to information technology, internet banking, and accessibility. Lastly, there is the purple cluster with the word performance as the concept with the most remarkable centrality. It is related to the words: impact, industry, and companies.

REVIEW OF THE EMPIRICAL LITERATURE

Below are quantitative studies that measure innovation as a variable affecting bank performance. Tian et al. (2020) analyze the relationship between innovation, technical information, and competition in US banks. They measure innovation by (1) the number of patents generated per million dollars of investment in Research and Development (R&D) and (2) the performance of R&D. Among the conclusions presented in his research, novel evidence stands out that the increase in banking competition improves the efficiency of innovation both in terms of R&D inputs (investment) and results (patents and profits generated by R&D).

Another proposal to measure banking innovation is the scientific construction of the Internet Finance Index. Dong et al. (2020) propose measuring Internet finance's impact on Chinese commercial banks. The results show that the development of Internet finance has a positive impact on the profitability, security, and growth of commercial banks and a negative impact on the liquidity of commercial banks. In addition, Internet financing has promoted the improvement of the overall business performance of commercial banks.

42

For their part, Qamruzzaman and Jianguo (2018) measure the innovation of Asian banks with two proxy variables: M2/M1 and growth of bank credit to the private sector as a percentage of GDP. With data obtained from secondary sources from the World Bank (WB) and the International Monetary Fund (IMF), the study concludes that the government should encourage financial innovation in the financial system through technological advancement and institutional integration.

In addition to formulating an economic policy that favors the development of the banking sector, allowing institutional development, business risk management, and promoting healthy competition in the financial system. Scott et al. (2017) analyze adopting a financial telecommunications network called SWIFT that measures digital innovation. A sample of banks from 29 European countries is analyzed, and their relationship with profitability is analyzed. A positive relationship is found that is maintained over time.

Lee et al. (2020) analyze data from 40 developed and underdeveloped countries and analyze the relationship between financial innovation and bank performance. The financial innovation variable uses two indicators: the financial intensity of Research and Development (FIR), which denotes R&D expenses, and the second measure of financial innovation adopted is the relationship between off-balance sheet items and the total assets of all banks (FIO). The results conclude that the two indicators affect the performance of banks in countries with more significant financial innovation. In contrast, the relationship between financial

innovation and banking growth tends to be higher in countries with weak banking regulations, financial reforms, and weak governance indicators.

Although interesting, these proposals to measure banking innovation are limited by the complexity of obtaining the data. The following section analyzes the concept of branchless banking financial innovation. This concept comprises indicators of banking infrastructure outside the bank branch and is a viable option to measure innovation in the Mexican banking sector.

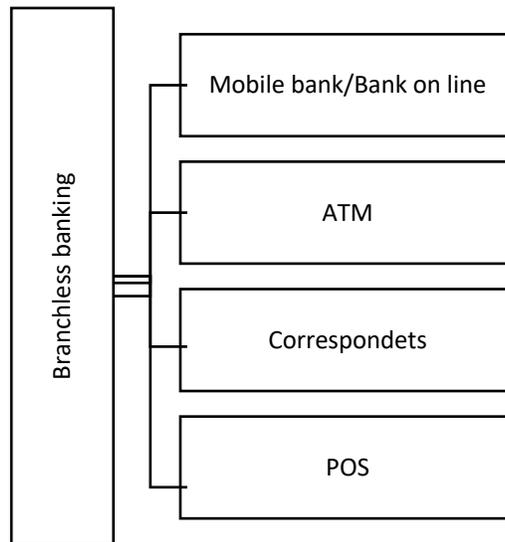
Branchless Banking

Branchless banking (Graph 6) is a concept that brings together the main innovations in access points outside the bank branch. The first article that is recorded and that addresses the subject of banking services outside the bank branch is the one carried out by Morison and Frazer (1982), who analyze banking services and the future of US retail banking, among which they mention the increase in bank outlets outside the branch. According to Marshall and Richardson (1996), the term refers to providing banking services through information and communications technology (ICT) to provide retail services outside bank branches.

The use term is a proposal to measure banking innovation used mainly by developing countries with large territories and marginalized areas where banks have little or no penetration and, therefore, a population excluded from the formal banking system (Ky et al., 2021; Palaon et al., 2020; Zhu et al., 2021). Banking services are provided from remote locations to branches using devices with internet access such as customers' mobile phones, points of sale (POS), automatic teller machines (ATM), and through third parties that represent the bank, who are known as correspondents or commission agents (Chipeta & Muthinja, 2018).

This model benefits users and banks; for the former, it extends the distribution of financial services to remote areas, such as rural communities and the outskirts of large cities, which are not reached by traditional bank branch networks. Among its main benefits for its users is avoiding trips and waiting times. For banks, the cost of building and operating a branch is reduced, which would have little influx due to its location (Ivatury & Mas, 2008). Although there is empirical research on this term, most are from African countries, in which Kenya stands out.

Graph 6. Components of the branchless banking model



Source: Own elaboration

44 In Latin America, Brazil and Peru have research, among which those carried out by Diniz et al. (2012) stand out, which exposes the experience of the municipality of Autazes in the Amazon region and where a correspondent attended millions of people who did not have access to banking services. It concludes that the positive experience is the local socio-economic development; the negative part is the over-indebtedness of the low-income population, the reproduction of practices of social exclusion, and the reinforcement of power asymmetries. It is concluded that access to financial resources must be accompanied by other mechanisms, among which financial education stands out.

The inequality that characterizes Mexico is also observed in the banking infrastructure. In 2020, 70% of adults living in urban areas had a bank account compared to 55% living in rural areas. The gap between these populations is also found in access to digital channels such as mobile applications, with a differential of 16% in favor of urban areas. Internet access and schooling are two main limitations of using mobile applications in rural areas. These data are obtained from the National Survey of Financial Inclusion of 2021, ENIF-21 (CNBV, 2021). 6% of the Mexican adult population speaks an indigenous language. Three out of four people live in rural areas, and 53% of this population lives in the southern part of the country. This demographic group is the one that presents a lag of 18% in financial inclusion concerning adults in urban areas.

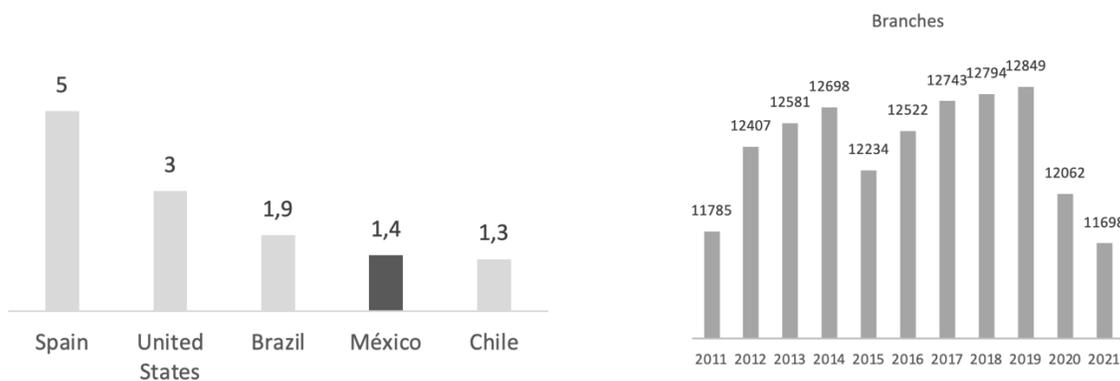
Table 4 shows the growth of banking access points and branches between 2011 and 2021. ATM, Point of Sale Terminals (POS), correspondents, and mobile banking are also part of the dimensions of financial innovation in various articles (Chipeta & Muthinja, 2018; Palaon et al., 2020; Waleed & Tahir, 2020). Mexico presents a significant lag in terms of branches operating in the territory compared to other countries. Spain has 5 branches for every 10,000 adults, the United States 3, and Mexico only 1.4. Despite this lag, it is noteworthy that the number of branches with which it closes the year 2021 is less than 2011 in 87 branches, going from 11,785 branches to 11,698 in 2021. (Graph 7)

Table 4. Evolution of banking access points

Year	Branch	ATM	Number of Contracts for Trans. through the cell phone	POS	Transactions in Commission Agents (in millions)
2011	11785	36427	162445	523578	80.51
2012	12407	40194	804101	556273	128.46
2013	12581	40811	2699378	630700	162.5
2014	12698	42931	5087915	731225	187.66
2015	12234	45781	7600420	851486	219.2
2016	12522	47945	13511393	898853	264.82
2017	12743	49508	15220629	965681	327.96
2018	12794	53270	27935479	1021636	380.4
2019	12849	56674	39049047	1318341	433.23
2020	12062	58059	49745798	1469076	431.9
2021	11698	58841	63440389	1457075	518.48

Source: Prepared by the authors with data from CNBV.

Graph 7. Comparison of Mexico with other countries in branches (per 10000 habitants) and evolution of branches in México in 2011-2021



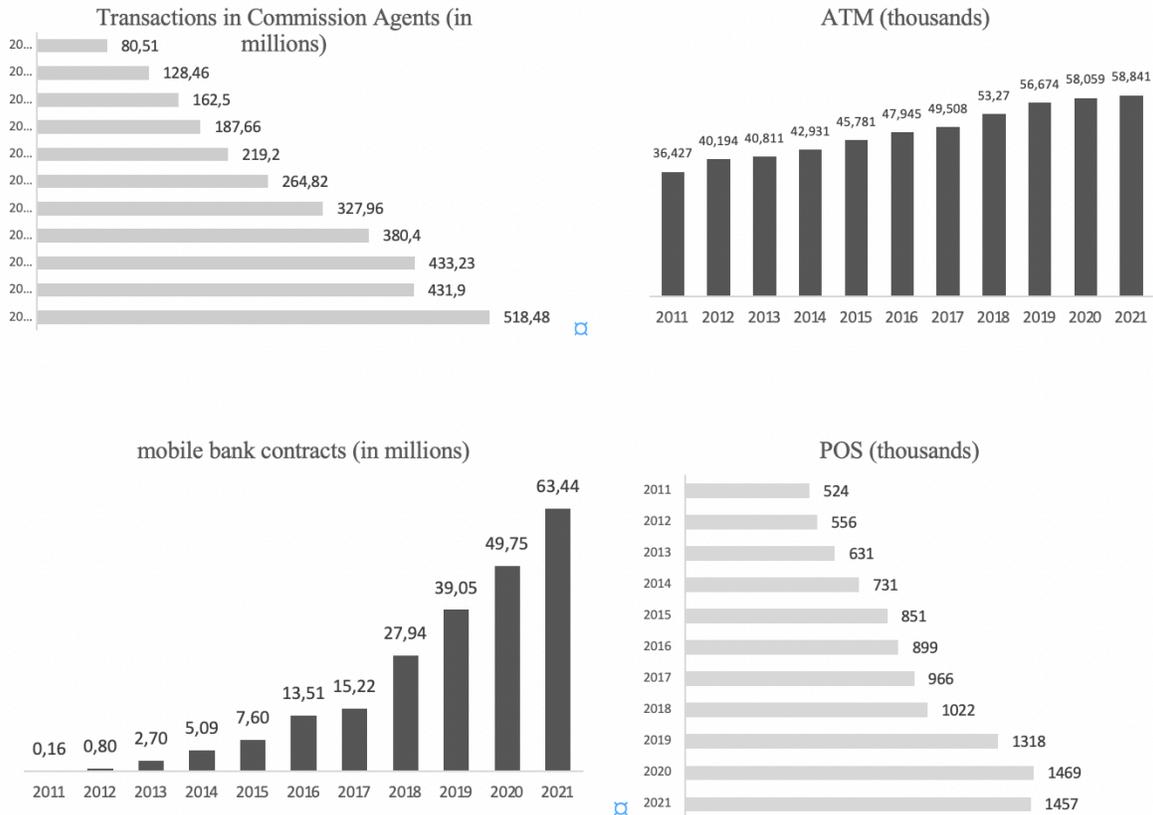
Source: Prepared by the authors with data from the International Monetary Fund, Financial Access Survey, 2019 and Own elaboration with data from CNBV

In the opposite direction, the evolution of alternate access channels shows constant growth: ATMs show an increase of 61.5%, TPVs show an increase of 178.3%. Transactions carried out by commission agents grew by 643%. The greatest growth occurs in the users of the

Banking innovations and their effect on profitability

mobile application that increased exponentially by 38953%. The evolution of bank branches and access channels in the period between 2011 and 2021 can be seen in the graph 8.

Graph 8. Evolution of alternative banking access points to branches



Source: Prepared by the authors with data from CNBV.

Table 5. Branchless banking articles

Article	Author(s)	Methodology and data	How do you measure innovation?	Findings
The impact of 'telemediated' services on corporate structures: The example of 'branchless' retail banking in Britain	(Marshall & Richardson, 1996)	The senior managers of four English banks were interviewed: First Direct, Bank of Scotland, the Royal Bank of Scotland, and TSB. The implementation and results of telebanking are analyzed, the service provided by banks telephone and with support of a computer.	The implementation of telephone banking at an access point outside the branch is analyzed.	The implementation and the results obtained by the implementation of telephone banking are analyzed. It is concluded that the banks are committed to modifying their traditional model and adopting the telebanking model. Among the main advantages are attention to users in remote areas and cost reduction. This model involves using a new workforce with lower wages.
Impact of cashless policy on bank's profitability: Evidence from a developing economy	(Itah & Emmanuel, 2014)	Secondary data from the Bangladesh banking system is used. An ordinary least squares (OLS) multiple regression analysis explores the relationship between cashless banking and bank profitability, ROA, and ROE.	Innovation is measured by: ATM Transaction Volume, POS Transaction Volume, Mobile Banking Transaction Volume, Internet Banking Transaction Volume, electronic funds transfers and check clearing volume.	The study results indicate that internet transactions are the only variable that significantly and positively influences both methods to determine the bank's profitability. The variables -volume of electronic transfers, the volume of check clearing, and volume of transactions in points of sale- positively impact the determination of the ROE.

Effects of Financial Innovations on the Financial Performance of Commercial Banks in Kenya	(Kamau Muiruri et al., 2014)	44 Kenyan banks answer a questionnaire. A Multiple Linear Regression is used with performance (net profit margin and gross profit) as the dependent variable.	Innovation is an independent variable. Credit cards, mobile banking, internet, and agency banking are indicators.	The study notes that Kenyan banks have embraced new technologies and modern ways of operating that are safer and superior to the old ones. It concludes that the use of financial innovations, including credit cards, mobile banking, Internet banking, and banking agents, has significantly impacted the financial performance of commercial banks in Kenya.
Relationship between Bank Innovations and Financial Performance of Commercial Banks in Kenya	(Gichungu & Oloko, 2015)	Secondary data from 43 commercial banks are used in addition to a survey, and the multiple regression methodology is used to study the relationship between innovation and ROA.	Innovation as dependent variable is the investment made in the last five years in four access points: Mobile banking, ATM, online banking, and banking correspondents.	Mobile banking, banking correspondents, and ATMs positively affect bank profitability, measured by ROA. Online banking does not influence profitability.
Bank performance, risk and economic growth: role of financial innovation	(Usman, 2016)	Data is collected from secondary sources, State Bank Economic Survey, and World Bank Financial Development Report data. Three econometric models are applied, the dependent variables being: 1.- performance of the banking sector, 2.- Risk, and 3.- economic growth. It is estimated with the Least Squares Method.	The financial innovation in the banking sector of Pakistan consists of various products and infrastructure such as ATMs, credit and debit cards, point of sale terminals, electronic banking, funds transfer, web service, Etc.	It is concluded that financial innovation has a positive and significant impact on bank performance. In the second model, after controlling for various indicators at the bank level, it is found that financial innovation minimizes the risk of bankruptcy. Model 3 evaluates the relationship between financial innovation and economic growth. The results indicate a positive and significant relationship in said relationship.
The Effect of Branchless Banking Strategy on the Financial Performance of Commercial Banks in Kenya	(Dzombo et al., 2017)	This research uses primary data from a survey of 42 commercial banks in Kenya. Secondary data from banking access channels and banks' financial performance are also used. These data are obtained from the annual Bank Supervision Reports of the Central Bank of Kenya.	The two channels that make up the concept of branchless banking are electronic banking and banking correspondents.	Among the article's conclusions is that if banking correspondents and electronic banking are used in isolation, they have a significant and negative effect on the financial results of commercial banks. On the other hand, when both channels are used together as a multi-channel strategy, they have a significant effect and a positive relationship on the ROA indicator. It is concluded that the channels are complementary, and it is necessary to invest in both to obtain a positive effect on the performance of the banks.
What Drives Financial Innovations in Kenya's Commercial Banks? An Empirical Study on Firm and Macro-Level Drivers of Branchless Banking	(Chipeta & Muthinja, 2018)	Secondary data obtained from Kenyan banking is used. The data panel methodology analyzes the relationship between innovation, company management indicators, macroeconomic variables that influence innovation, and control variables.	The Innovation Indicators are ATM, Online Banking, Mobile Banking, and banking agents (commission agents).	It is observed that the indicators of the companies that promote branchless banking are: the size of the company, the transaction costs, the limitations of the company, the technological advances at the company level, and the agency costs. Regulation and lack of resources in financial markets are the main drivers of branchless banking at the macroeconomic level.
Financial innovations and bank performance in Kenya: Evidence from branchless banking models	(Chipeta & Muthinja, 2018)	Secondary data from 42 commercial banks in Kenya are used. Dynamic panel estimation is used with the generalized system of moments method.	The innovation comprises the number of ATMs per bank, accounts with Internet banking access, the number of banking correspondents who are partners of the banks, and the logarithm of the	Evidence is found that financial innovations positively affect bank performance (ROA and ROE), which implies that the shareholders are the primary beneficiaries of the innovations used by the banks.

Banking innovations and their effect on profitability

			number of banking transactions per bank.	
The Impact of Branchless Banking on Promotion	(Waleed & Tahir, 2020)	The data is collected through a survey, and secondary data from the Pakistan bank is also used.	The data is collected through a survey, and secondary data from the Pakistan bank is also used.	The data is collected through a survey, and secondary data from the Pakistan bank is also used.
Branchless banking and profitability in the Indonesian Islamic banking industry	(Arif & Cahyani, 2021)	Indonesian Islamic banking data is analyzed. One of the banks operates with the branchless banking model. This study uses regression analysis techniques with fixed effects panel data.	Indonesian Islamic banking data is analyzed. One of the banks operates with the branchless banking model. This study uses regression analysis techniques with fixed effects panel data.	Indonesian Islamic banking data is analyzed. One of the banks operates with the branchless banking model. This study uses regression analysis techniques with fixed effects panel data.

Source: own elaboration

The relationship between branchless banking and bank profitability is analyzed by empirical articles, as shown in Table 5. It presents the methodology used, how the authors measure the innovation variable, and their research's main findings and conclusions.

CONCLUSIONS AND FINDINGS

Section I

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- Banking has a remarkable ability to adapt to technological changes. Through the centuries, the banking sector has been characterized by its flexibility and openness to modify its business model.
 - Although a significant number of investigations analyze the performance of banks, the publications that study the relationship between innovation and profitability is lower.
 - The empirical literature concluded that innovation, emphasizing distribution channels, influences bank performance.

Section II

- Publications on this subject have shown a growing interest recently, with developed countries such as China, the United States, and England standing out.
- According to the co-word map in **¡Error! No se encuentra el origen de la referencia.**, the database's conceptual structure that addresses the innovation-profitability relationship is interpreted by the links between the clusters, with the size and centrality of the nodes being the attributes that rank the most influential words.
- The blue cluster contains terms such as adoption, information technology, internet banking, and acceptance. Due to its size and distance from the centrality of the map, it is concluded that this topic is little studied and offers a wide field to explore.
- There is no consensus to measure innovation in banking. The authors propose their methodologies according to the available data. Transparency and access to information are essential elements of proposing more robust, sophisticated models with greater certainty.

Section III

- The term branchless banking refers to alternative banking access points to the traditional branch model.
- ATMs, POS terminals, Mobile Banking, and banking correspondents are some channels used in publications that use this term as a synonym for financial innovation.
- Branchless banking is used to measure innovation in underdeveloped countries with large territories, with Kenya and Brazil having the most publications. No empirical publications were found on this subject in Mexico.
- Branchless banking publications find significant relationships with bank performance in at least one channel.
- Due to the availability of information, the territorial extension, and the inequality in banking coverage, mainly with rural populations, banking without branches is a viable option to measure innovation in the Mexican banking sector.
- The Mexican banking sector shows a notable tendency to reduce the opening of branches. Otherwise, it appears with the alternative channels.

The country presents alternatives to banking the population: the current government creates the Banco del Bienestar, it has a regulatory framework that allows the arrival of international financial groups, in addition to the disruption of FinTechs that have a substantial presence with the new generations. Additionally, the future of the branchless banking model is also a viable alternative to increase financial inclusion; two examples are presented that show this:

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1. The growth of more than 24 million accounts with access to mobile banking in 2020 and 2021. The period coincides with the new purchasing habits acquired by the COVID 19 pandemic, among other causes.
2. The proliferation of digital banks or neobanks, which base their business models on virtual platforms and applications for mobile devices, the Brazilian FinTech Nubank being the most prominent. With more than 40 million users and a valuation that exceeded 40,000 million dollars by the end of 2021, figures were reached without having any branch (Expansión, 2021).

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Virtual tourism in the post-pandemic reality: Economic-financial flows

El turismo virtual en la realidad pospandemia: Flujos económico-financieros

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ABSTRACT

The work aims to analyse how virtual tourism viability is achieved in face of post-pandemic reality stemming from economic and financial flows for companies in the sector. The analysis is based on surveys from organisations such as MCI Spain and EventoPlus as well as information obtained from ten professional congresses on health, research as well as corporate topics. Five of these are face-to-face (pre-pandemic), four are virtual and one is hybrid (post-pandemic). The results show that virtual events viability is mainly achieved by sustainability, security, audio-visual elements, and types of event formats. The main conclusion is that the post-pandemic reality demands from congress tourism the creation of new, smart and sustainable ideas to improve the overall satisfaction of value chain participants.

Keywords: Business Tourism, Virtual Tourism, MICE, Hybrid Congresses, Economic Viability.

JEL CODE: M16, Z32, Z33

RESUMEN

El trabajo tiene como objetivo analizar cómo se logra la viabilidad del turismo virtual ante la realidad pospandemia derivada de los flujos económico-financieros para empresas del sector. El análisis se basa en encuestas de organizaciones como MCI Spain y EventoPlus, así como en información obtenida de diez congresos profesionales sobre salud, investigación y temas corporativos. Cinco de estos son presenciales (prepandemia), cuatro son virtuales y uno es híbrido (pospandemia). Los resultados muestran que la sostenibilidad, la seguridad, los elementos audiovisuales y los tipos de formatos de eventos son los que principalmente permiten lograr la viabilidad de los eventos virtuales. La principal conclusión es que la realidad pospandemia demanda del turismo de congresos la creación de nuevas ideas, inteligentes y sostenibles para mejorar la satisfacción global de los participantes de la cadena de valor.

Palabras clave: Turismo de Negocios, Turismo Virtual, MICE, Congresos Híbridos, Viabilidad Económica.

Código Jel: M16, Z32, Z33

INTRODUCTION

The concept of tourism has many definitions and modalities. According to the World Tourism Organization (UNWTO or in Spanish Organización Mundial del Turismo):

Tourism is a social, cultural, and economic phenomenon involving people's movement to countries or places outside their usual environment for personal, professional or business reasons. These people are called travellers (who may be either tourists or excursionists; residents or non-residents) and tourism encompasses their activities, some of which involve tourism expenditure (Organización Mundial del Turismo, 2010, p.12).

Based on this definition, a characteristic of tourism is the "physical movement of people in terms of territory". In a virtual environment, the person remains physically in the same place without moving. However, the virtual environment leads to the sensation of displacement in the face of the experiences and contacts established virtually. The person "travels" virtually and is involved in connection through virtual media that are facilitators of the journey. It is more in line with the Royal Academy of the Spanish Language (RAE) definition. According to the RAE dictionary, tourism is an "Activity or fact of travelling for pleasure, set of means conducive to facilitating tourism trips, group of people who make tourism trips" (Real Academia Española, 2014).

The viability of tourism requires new forward-looking measures, and short- and long-term actions for the growth of the tourism industry itself; not only economically, but also in other aspects such as socio-cultural, socio-economic, and environmental ones (Maymand, Farsijani & Moosavi, 2012; Beck & Egger, 2018; Voronkova, 2018). The latter is an aspect that has a rather high impact and more so during the post-pandemic era, as the economy (Gutiérrez Abad, 2021) and global tourism shutdown led to the creation of new objectives to meet those business sustainability goals. The new global environment leads to a greater emphasis on virtual tourism, which is positioned as fundamental to business in the face of health measures. Therefore, the following question arises: ¿How to achieve the satisfaction of the virtual tour in the post-pandemic reality with financial and economic benefit for the companies in the sector?

THEORETICAL FRAMEWORK

Sustainability

In the face of the pandemic, virtual tourism contributes to preventing a decline in the sector. In addition, it is sustainable because it reduces the flow of people, contributing to the reduction of pollution (Martín & González, 2016; Lu et al., 2022).

The "Strategic Sustainability Plan 2030" sets out the aspects to be followed and names the sustainability plans that the Spanish government has designed for its progressive implementation and to achieve high levels of quality, taking into account the environment (Ministerio de la Industria, Comercio y Turismo, 2019). Tools such as Big Data, which collect information for its subsequent use, mean that tourism intelligence is progressively developing, as well as serving as a basis for other e-commerce and live streaming tools to take advantage of all methods of communication and interest attraction.

These innovations in turn enable the development of smart destination networks (SDN), which are born out of the need to offer other types of differentiated and competitive services. Some organizations certify these smart destinations according to the parameters of governance, sustainability, accessibility, innovation and technology. In tourism, reference is made to measures such as (United Nations, 2015): efficient buildings, access controls, sustainable mobility, tourism intelligence, and virtuality in destinations.

Security

60 Museums have adopted relevant measures such as access controls, increased security and hygiene measures, or the virtual tour or 360-degrees access. In this way, a visit to the museum divided into sectors is offered where one can see and hear the exhibition remotely without leaving home, either as a guided or not guided tour. This type of virtual reality is somewhat complex; the challenge of providing the same emotions and experiences is faced by both companies that are dedicated to providing technical support as well as tourist destinations entities.

Virtuality is under question, as many sectors express disagreement as to whether it is sustainable, and even more so because there are still no concrete studies that show that it is more sustainable. The use of the internet is pitted against the wear and tear of human beings. However, virtuality is confirmed to be a useful and easily adopted method and still has a long way to evolve and adapt to future adversities (Lyntia, 2022). Virtuality grew in 2020, a time of adaptation for all sectors and companies in the world, and in business tourism in particular (Puro Marketing, 2022).

Sensory hyper-realism

Virtual experiences seek to leave intense impressions on those involved in them. The intensity of the experiences (Kullmann, 2014; Huggett, 2020) is key to gaining greater weight in virtual tourism as compared to a real experience (De Ortega, 1984). The mechanisms at work in simulation and simulacrum in the design of virtual tourism experiences depend on the relationship established between the expressive representations of a system object (Congress) and the perceptual representations of the user (peer exchange, debate, reflection and the opportunity to create new professional links).

Both the properties of the system (functionality aspects) and those of the receiving subject (usability aspects) are determined by conditions that can be optimised to enhance the experience. The four main conditions are synchronized coverage, intensity, interaction and alternativity (Costa, 2010).

Audiovisual elements

Most conventional virtual reality applications are audiovisual; however, the constant evolution of these technologies makes it possible to provide enriched multisensory virtual reality content that can further increase the potential of virtual reality applied to the field of tourism. The multisensory capability makes users feel physically present in the virtual environment and contributes significantly to the development of positive emotions favouring the consumption of virtual tourism products and services (Melo et al., 2022; Flavián, Ibáñez & Orús, 2021; Hopf et al., 2020).

Types of formats

Virtual congresses have abandoned human contact, creating hybrid formats. Apointments are held entirely online (with new technological supports such as augmented reality or virtualisation), and meetings are established between small groups. The format with the most activity on the part of participants is augmented reality (Spielmann & Mantonakis, 2018).

Collaborations

Collaboration within virtual tourism requires the infrastructure provider (intranet and hardware, value-added services, security and data protection), tourism enterprises, regardless of their size, and virtual tourism service networks (web site and portal, payment system, integrated system with high-speed data transmission, among others) (Maymand, Farsijani & Moosavi, 2012).

Changes in consumer behaviour

The main external variables influencing consumer behaviour are demanded environment, family, reference groups, culture and social strata. They have changed rapidly with the presence of COVID. In addition, prolonged confinement, social isolation, distancing and other health measures have changed the way people make decisions, perceive the shopping experience and interpret service quality (Henao & Cordoba, 2007; Gil, Torres & Lopez, 2013; Di Crosta et al., 2021; Mehta, Saxena & Purohit, 2020; Verma et al., 2022).

Trends and perceptions of virtual tourism in Spain

MICE tourism (acronym for Meeting, Incentives, Conferences and Exhibitions) is the name given to a type of tourism that already exists and which is known worldwide as congress/event tourism. There are different definitions of MICE tourism:

Virtual tourism in the post-pandemic reality: Economic-financial flows

MICE tourism encompasses various types of professional events, which can be broken down into trade fairs, conventions, exhibitions, congresses, conferences or seminars and incentive trips. In addition, MICE tourism has to encompass a series of characteristics, which are depersonalization, economic impact, employment generation and positioning of the destination (OSTELEA Tourism Management School, 2021).

With the help of statistical reports from the Spain Convention Bureau concerning the year 2019, MICE tourism generated around 12,000 million euros per year in Spain (EventoPlus, 2022). Data collected from the INE show that only 5,409,183 Spanish nationals travelled for business purposes, while the total data estimated shows around 10 million travellers of this type (INE Instituto Nacional de Estadística, 2019).

Business tourist spends up to €320 while a sun and beach/leisure tourist generates around €110, which means that MICE tourism generates approximately 30% more income than sun and beach tourism.

Spain is one of the privileged destinations for this type of tourism, as according to the ICCA (International Congress and Convention Association) ranking, Spain is in fourth place among the countries with the most congresses per year, surpassed only by the USA, Germany and France. Madrid and Barcelona are in fourth and fifth position as host cities for this type of tourism (Hosteltur, 2019).

The above references provide an interesting picture of the environment, despite the difficulties encountered in the post-Covid19 era, as it is a result of the consensus of different people with senior positions in different companies fully dedicated to tourism not only MICE but in general.

The aspects to be taken into account with special attention are the following (Tecnohotel, 2021: 12): lack of professionals, Temporary Labour Force Adjustment Plans (ERTEs - Expedientes de Regulación Temporal de Empleo in Spanish) and the non-return of employees, shortening in the booking period (from six months to only two), problems with supply, change in customer demand and security.

Digital updating and innovation are the standards for the survival of all companies dedicated to this type of tourism. The annual briefing note "The MICE sector reinvents itself with the pandemic" comments on the sector's past and current problems, including the 70% drop in activity (Hosteltur, 2021).

METHODOLOGY

As sources of information, the data provided by various companies and professionals in the tourism sector have been used, hereby mainly the primary source of information are analysed, contrasted with different articles and reports on the sector.

Afterwards, for the consolidation of numerous measures applied in feasibility, sustainability and business finance studies, other bibliographic sources have been applied to support the application of formulas and to understand the decisions based on specific projects that were taken when implementing new business channels (Suárez and Suárez, 2014; Mascareñas, 2010). In addition, the following calculation formulas have been used for the presentation of the data: calculation of the budgets of a congress or event, calculation of registration prices, calculation of correlations of attendees and events characteristics, calculation of income, expenses and profits, calculation of elements of economic viability, use of elements measuring the environment.

The financial flows of revenues and costs associated with virtual events realised during and after the Covid-19 pandemic analysed are based on the case of 5 events with data provided by the anonymous company in the MICE tourism sector with headquarters in Madrid, Spain. This information was compared with other 5 face-to-face (or presential) events, organised before pandemics. In order to assure the confidentiality of the sensitive information, the data was provided in percentages. Information on the structural flows and costs borne by the company is not included, as their analysis is outside the scope of this study.

To complete the incomplete statistical information for the recent years under study, different types of results obtained from surveys carried out by MICE tourism entities are analysed in terms of satisfaction, adaptability to virtual elements and measures. This is followed by a quantitative evaluation of the profitability of these events.

DISCUSSION AND ANALYSIS OF RESULTS OF FIVE VIRTUAL POST-PANDEMIC EVENTS VERSUS FIVE FACE-TO-FACE ONES FROM BEFORE THE PANDEMIC

MCI Spain Survey

The data analysed below correspond to surveys conducted by MCI Spain on Spanish (66%) and Latin American companies (34%), representing entities from automotive, healthcare, technology industries, non-profit organisations, professional services and business, and consumer and food sectors (MCI Spain, 2021). Both Spanish and Latin American companies have held virtual events with more than 50% increase in the audience numbers. 57% of the companies surveyed indicated that they have adapted and trained personnel for

a virtual format, while 40% of them already had this knowledge before.

83% of companies agree that there are real cost savings to be made with virtual events. 64% of companies believe that the virtual format is fully valid for both internal and external events, and 83% of companies agree that it is much more effective and useful in a 15-participants environment.

40% of companies have used a 100% virtual format. Among the companies that tried other formats, 90% of companies used a hybrid format with a stage but without an audience, 45% used a hybrid format with a stage and an audience and 30% were 100% face-to-face events.

The level of user satisfaction has dropped from 80% to 60% for virtual events as the post-pandemic situation has progressed, although it has risen thanks to the inclusion of the stage and the presence of some audience. 69% of respondents considered that the virtual event strategy works, but with a lot of room for improvement, 12% did not change their opinion (stable), 8% found it unsatisfactory and 10% rated it as excellent.

Among the most valued complementary aspects within the virtual/hybrid dimension are, sustainability aspects (20%), sensory hyper-realism (6%), security (20%), audiovisual elements (17%), types of formats (18%), collaborations (4%) and changes in consumer behaviour (13%).

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EventoPlus Survey

The EventoPlus study brings together a range of responses from over 500 decision-makers in the tourism industry, agencies of various types, suppliers, incentive companies and surveys of professional conference organisers (PCOs) (Mottard et al., 2021). Significantly, 52% of respondents said that events attendees had declined by more than 70%, with 23% commenting that the decline was between 40%-70%.

Participants consider virtual events to be significantly cheaper, only 11% consider that the costs are higher. Another issue is the estimated profitability of online events, three-quarters of the respondents consider that they are not profitable, but with a fairly high level of optimism. The confidence in the possible profitability of this type of event is 32%, in addition to the 19% of respondents who estimate that the events are already profitable.

Despite the perceived cost-effectiveness issues, virtual events are consolidating, with 62% of respondents believing that they will be another way to adapt to the new normal and that they will be useful when physical events arrive, as they will move to hybrid events formats.

Comparison and analysis of the five events

Before Covid19, the company operated all its congress and event organisation services on a face-to-face basis. The pandemic has meant a rapid adaptation due to the demands of the environment and its relevance for the survival of the company. Like many companies in the sector, during the two years of the pandemic, this entity has also opened several business channels, which are adapted to the new proposals for the organisation of congresses and events in different types of modalities in terms of presence. The detailed information and the breakdown of the subsequent analysis deals with five congresses, with different themes concerning medicine or derivatives (health issues in broad terms) and gastronomy.

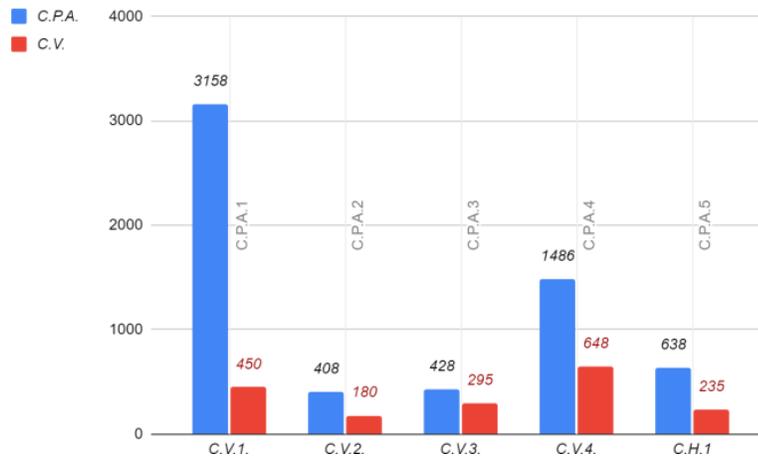
All congresses have a history that precedes them in terms of their importance, objectives, publicity and other other factors that they share, with the "virtual" factor having greater relevance for the analysis. It can be said that virtuality has not impeded the holding of events, as the organisations are assuming that to continue to advance in the context of their sector, it is a novel, affordable and adaptative option.

The congresses studied and analysed contain common features in their breakdowns of income and expenditure or "line items". These items, irrespective of the different amounts set out below are in fact common to any type of medium to large-scale events in MICE tourism.

The four of the five congresses/events analysed are (C.V.) or totally online or virtual congresses/events and the last (C.H.) is a hybrid one with online broadcasting during the entire event. The hybrid congress (H.C.) is a clear example of the progression and evolution of the type of tourism studied. In addition, the comparison data from five fully face-to-face congresses (C.PA.) organised in the pre-Covid19 period are analysed, provided by a proprietary database.

The data obtained on registrations for virtual events is advanced information for an evaluation, as the line of business being studied is new and therefore lacks a history for comparison. After consulting the data provided by the collaborating company, an analysis was made on the different dimensions described above on the types of virtual, hybrid and face-to-face congresses. Graph 1 compares the number of registrations for the five congresses held before and after the pandemic.

Graph 1. Number of registrations at the studied congresses, before and after the pandemic.



Source: Own elaboration based on data provided by the anonymous company.

Graph 1 shows the number of registered attendees for each congress type. Virtual congresses attract a higher number of attendees on average than a hybrid one. This is so, because the data is from the beginning of hybrid congresses implementation, which was progressive as the public and companies were getting used to this type of format.

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In addition, a large number of registrations in virtual events is registered, which shows that in this case, both the public and the company, have been able to adapt quickly and efficiently to a new business channel. A virtual congress can include a large number of people adjusted to the company's capacity to support such a large virtual event. The events of this type are highly adaptable to any change in demand. A decrease in the number of attendees can be observed in the second congress (C.V.2), although afterwards it increases progressively until the fourth virtual congress (C.V.4). This detail is a sign of good practice, as companies are looking for economic sustainability after the first Covid19 shock, with this sector being one of the most affected.

Adaptation and evolution are essential, a point of strength is created. This demonstrates the practice to be adapted towards a new, efficient strategy. Unlike face-to-face events, in the case of virtual congresses, it is necessary to take into account the history of the congress and their attendees to be able to manage all the necessary services.

The virtual elements create possibilities of mixing a virtual event with a degree of presence, the novelty in each case being the form of the event, not its content as such. The hybrid congress (C.H.1) provides very relevant information, i.e. the gradual and slow recovery, the recovery not only of the sector but also of the public's confidence in the fulfilment of health requirements. Registration numbers are lower, even if different types of registrations are mixed according to the mode of attendance (virtual/on-site).

The variation between pre-covid on-site attendees and virtual post-covid attendees can be observed, a relevant drop in attendees' numbers regardless of the subject matter. According to the data collected, the average number of attendees at an on-site congress in the pre-Covid19 period was 1,224. In comparison, the virtual event has an average of 362 attendees, which implies a variation of -70.42%.

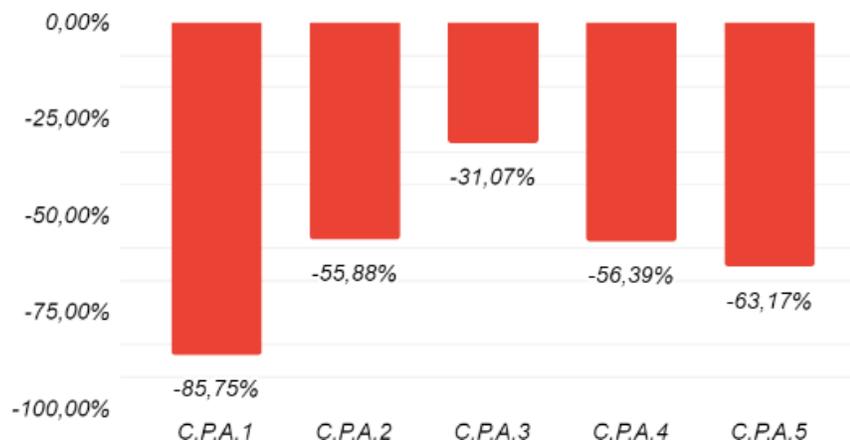
In addition, there is a differentiation between the number of virtual attendees counted at the hybrid event and the number of face-to-face or on-site attendees at the congress itself: 91.06% attended in person and 8.93% in virtual format.

The above data can be a good measure for future trends, i.e. the gradual adaptation of this type of attendance, although in this case, the proportional part that attended virtually refers to individual or small group sessions. Virtual congresses gain in certain aspects such as access to new technologies, faster adaptation to the environment, new online companies and new jobs.

The sharp drop in the number of attendees and the change in attendance means a significant economic decrease in the destination environment revenues, as well as the so-called positive externalities generally associated with this type of events. The variety of suppliers, rentals of certain equipment, restaurant consumption, etc. are limited.

Graph 2 shows the percentage variation between the number of attendees of virtual and hybrid congresses and the data collected from attendees of face-to-face or in-site congresses, ordered from C.P.A.1. to C.P.A.5.

Graph 2. Percentage variation between attendance numbers for events of the same subject matter with different attendance formats.



Source: Own elaboration based on data provided by the anonymous company.

A significant drop in attendance numbers can be observed in comparison with the number

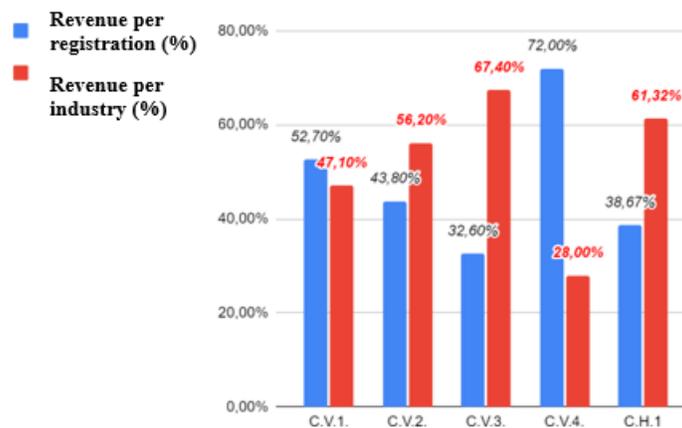
of registered attendees at the virtual congresses that share the same subject matter. This figure indicates that Covid19 has meant a large drop in the number of people registering for the congresses, it is 85.75% less compared to the same congress on the same subject, but in virtual form, implying 2,708 less registrations.

Revenue items.

Graph 3 shows the revenue collected in all the virtual congresses studied, quantifying the revenue from registration versus industry (exhibitors and partners). Registration revenue is of great importance in congresses as it accounts for more than 45% of the total revenue of the congress or event. Companies take care of this numbers even before they know how much they are going to spend during the congress organization process.

Event organisers base their estimates on advance payments issued, pre-registrations, special prices, committee members, guests, non-members, stand attendees, etc. The graph 3 shows the difference between the two revenue streams of the virtual congresses analysed.

Graph 3. Revenue per registration and industry at analysed virtual events.



Source: Own elaboration based on data provided by the anonymous company.

The revenue from attendance is quite positive, as higher than the average profit from these congresses is due to the participation and registration of attendees or partners. Even so, the difference in the data is considered minor. About revenues by industry, the data diverge more. This is due to the commercial dealings with sponsors, partners, etc. At this point, revenue is more varying, as other factors also play a role, such as the topics of the events, which may be more or less attractive to exhibitors and commercial companies.

It follows that revenues are different, even if they come from the same items in virtual and in-site congresses because the same activities cannot be carried out. An example would be the income from square metres sold by stands and exhibitors, which are sold differently,

virtually, by buying "virtual space". In the gastronomy congress, such as the virtual congress three (C.V.3), the amount associated with industry income, is associated to the sponsorship provided by the industry in this sector.

As for virtual congress two (C.V.2) and four (C.V.4) they are quite similar due to the environments in which they are located, i.e. both of them share a common theme, which is health. Although the medical branch is differentiated, in virtual congress two (C.V.2) the income contributed is due to the sponsorship value.

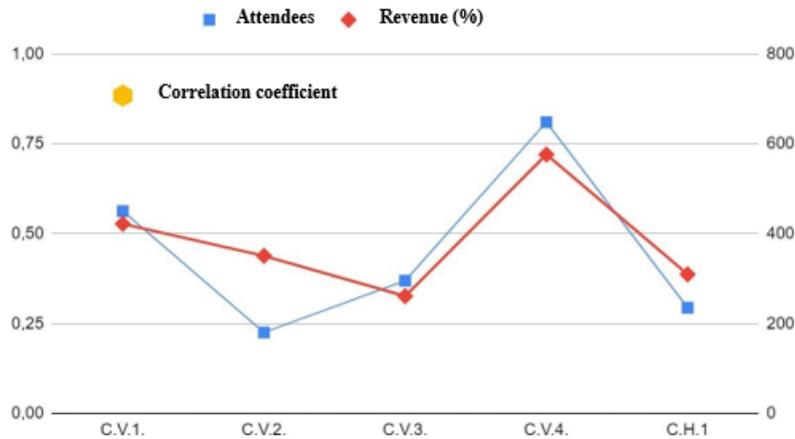
It should be noted that virtual congress one (C.V.1) shares the same theme, but the collaborating entities are different, which means that within the same theme (health) the advertising and marketing are different, although they have similar collaborators, in comparison to virtual congress four (C.V.4) as it is more didactic and practical implying an increase in expenditure on other items. It can be said that the industry in which the virtual congress four (C.V.4) works is less likely to generate marketing or advertising benefits, as well as additional income derived from the participation and organization of the congress.

The difference is also seen in the 61.32% of industry revenue from the hybrid congress, due to global agreements with companies for the formalisation and physical exhibitors with gifts. In the end, the square metre is sold for the private use of any collaborator or member who wants to sponsor the congress.

In the data studied, the Pearson's correlation coefficient of income per enrolment-attendee is 0.88, which shows that this income as the primary source of revenue is positively correlated with the number of attendees enrolled (Graph 4).

"Correlation is a statistical measure that expresses the extent to which two variables are linearly related, positive "r" values indicate a positive correlation in which the values of both variables tend to increase together, while negative "r" values indicate a negative correlation, in which the values of one variable tend to increase while the values of the other variable decrease" (JMP Statistical Discovery, 2022).

Graph 4. Studied events correlation of revenue and registered attendees' numbers in virtual events



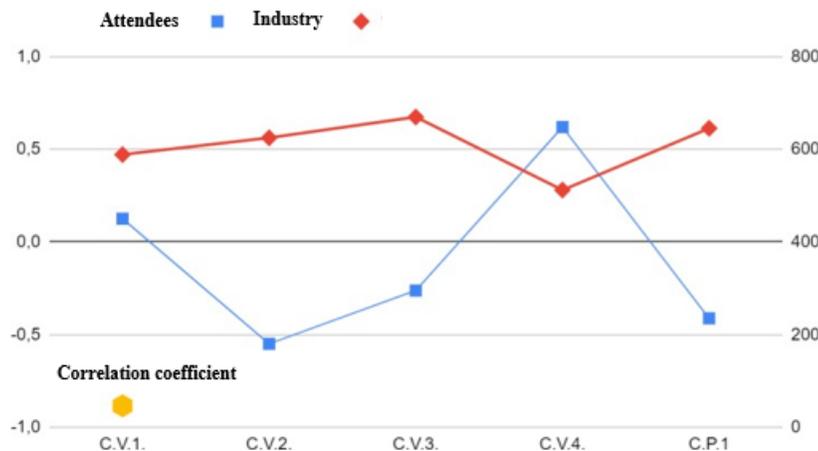
Source: Own elaboration based on data provided by the anonymous company.

It should be noted that in virtual events there are very few places in guest mode, i.e. there are some free places for a limited number of staff, such as speakers, table delegates, etc., so that the analysis is not distorted by free places.

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However, it should be borne in mind that, despite the measures adopted by the companies, which are updated daily with increasing experience, piracy in virtual events exists, and therefore the data may be affected. Piracy implies persons sharing their profile or sharing their information with other people when the norm is that at a congress is paid per individual registration, i.e. each registered person has an exclusive access.

Graph 5. Sample correlation of revenue by attendees' number and industry in virtual events



Source: Own elaboration based on data provided by the anonymous company.

The Pearson's correlation coefficient in the industry revenue-attendee number is negative

(Graph 5), as the value that the organising companies receive in revenue from this item is much lower than the registration revenue analysed above. In short, this section shows the differences in registration according to the virtual or in-site nature of the event. Revenue from events where the industry in the locality of the event does not cooperate is reduced. If the industry has greater accessibility and collaborates, other types of channels are created that can encourage the reach and attendance of both virtual and physical events. Although in the case of industry participation, channels suppose only one factor among others to be taken into account.

Expenditure items

The expenses are divided into different types of items common to any type of congress and event, even though their modality is innovative. There are items such as the "Venue" (understood as "the place where a public event or meeting is held") and catering (the business of the companies that prepare food and beverages). Venue and catering are two items that are intertwined due to the characteristics they have between them, as one exists thanks to the other. If there is no place to hold something, it is not possible to provide a service. The venue is a very important expense for companies dedicated to organising meetings and congresses in general, it has a considerable magnitude within the sector. It is essential to find a space that is viable for holding events. This is because it combines facilities, internal services, capacities, etc.

In short, this is a fixed cost for in-site or hybrid congresses, since, as the analysis of the hybrid congress (C.H.1) shows, the venue is a fairly large percentage within the expenses section, with the average close to 38%. In comparison with the virtual events, the difference between the venue and the virtual events is observed. In some of the cases of the study, it is equal to a value of 0%, as in virtual congress two (C.V.2), i.e., no expenses associated with hosting people or renting or using rooms for the operation and development of the event, without auxiliary (hotel) staff, etc. is registered.

The low percentages for virtual congresses one (C.V.1) and three (C.V.3) and a little higher one for four (C.V.4) are not very significant as they do not represent an expense item that has a considerable impact on the agreed budget. In the case of virtual events, the venue as an expense is associated with the companies that facilitate a space for the use of the technical service personnel that is needed to deal with the congress or event.

The virtual venue can also be "a digital environment where users create an avatar and navigate in a video game-like environment, designed to immerse attendees in a 3D virtual world and provide a real sense of space that helps attendees to collaborate, learn and interact naturally". In general, specific venues are made for each event (LKD, 2020).

Virtual events are held in virtual spaces, this type of virtual event has a reception room,

which, depending on the type of meeting, can be more interactive or simple, as it would be an assistance or meeting centre. Companies dedicated to this type of events usually have a customised location, which is amortised in other ways. If the number of congresses raises, it is worth investing in virtual space, that nowadays can be found at all events.

The greater the number of people attending and the greater the interactivity required, the greater are the expenses for the organising company. This issue is related to the impact it can have on the environment. Holding a virtual event is a plus in terms of profitability for the company or its technical service, but at the same time, it stops contributing and collaborating with a large number of companies that are associated with the event, such as venue hotels, rental companies, specialised auxiliary personnel companies/agencies or even companies that assemble stands or exhibition spaces.

In the case of the hybrid congress (C.H.1), the above analysis is equally valid, although to a greater or lesser extent, as it is in line with the number of people attending and the previously formalized programme. Then, it should be taken into account that the catering item is an expense that companies emphasize when organizing the event since commercial ties are forged at these lunches and dinners and that in turn, it works together with the income item, due to the sale of additional dinner and lunch tickets.

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In this sense, in principle, the catering expenses are quick to interpret, since in the case of virtual congresses (C.V.), no type of service derived from the hotel and catering industry should be found. Virtual congress one (C.V.1) adds a catering cost of 1.10% for a kind of per diem paid to the travelling event' hosting personnel and a short-term service on the set used to manage the congress.

In virtual congress two (C.V.2), it can be observed that there is no expenditure on the catering item because it was a 100% online and virtual event. On the other hand, in virtual congress three (C.V.3), per diems were paid for the staff involved in the technical secretariat and collaborators involved in the central headquarters from where the monitoring was carried out.

In virtual congress four (C.V.4), as in case of other congresses, the expenditure is derived from the duration of the congress and per diems paid for the travel expenses of some of the members of the organizing entity and the event broadcast stage use, taking into account catering for its administrators, and buses for transfers to the catering area. As it can be seen, there are many associated expenses. The involvement of companies and sub-companies that boost the financial and economic flows is highlighted in this item. In addition to the aforementioned items, in this type of virtual modality, flows related to communication, support and virtual management of online/virtual congresses can be seen.

AV-Streaming (AV - Audiovisual) is the activity of listening to or watching sound or video directly from the Internet, more precisely in this context "it refers to any media content, whether live or recorded, that can be enjoyed on computers and mobile devices over the Internet and in real-time" (Verizon Fios, 2022).

In the analysis, AV-streaming is interpreted as the cost item that has been derived from the creation of the virtual infrastructure, broadcasting of the event, tools involved and very technical aspects for the creation of the event. The platform and management, which is added as a separate item, concentrates on technical support, platform or support company costs, broadcasting tools and materials, additional rooms, and so on.

In what regards AV-Streaming item, there are considerable variations between different events, highlighting the virtual congress two (C.V.2), which has a higher expenditure in comparison with the others and the attendance it had. This is due to the infrastructure needed for its realization. It is possible that its 100% virtualisation, previously mentioned, has risen considerably due to the need to cover all the requirements for its realisation. This is a major but cost-effective expense compared to the other expenses.

The other events show a standard average, as the data are practically identical, although with a variation of 11.20% between virtual congress three (C.V.3) and four (C.V.4), which may be related to the difficulty of the scope and use of different interactive tools that have an additional cost. Virtual congresses were equipped with all the necessary infrastructure for the realisation of the event, as not all congresses requirements are the same. The events that have had a lower cost in this area and are virtual or hybrid when it comes to formalizing the process may have lower demands in comparison to their attendance.

The hybrid congress (C.H.1) is supported by a platform, although the organiser himself was in possession of a large part of what is necessary for the virtualization of the event, such as televisions, cables, personnel, and so on. About the costs derived from the platform support, in the case of virtual congress two (C.V.2), the infrastructure was a high expense, accompanied by the chosen platform and its collaborators expenditures. This congress costs, despite its participants' high virtual expenses, was compensated by a large revenue from the industry. The congress had some striking peculiarities, as the administrative body of the event organiser had requirements that could be met without external support.

The other three congresses studied have a fairly low investment, which may be because the management of the platform was already in place, the requirements of the requesting body were fully or partially covered without the need for external operators, or because the industry factor (sponsors) was more decisive. The hybrid congress (C.H.1), has a high management investment for its modality, including here the management and reception of the participants within the platform but also the auxiliary personnel and the management of

their fees, as well as extra help for each of the auxiliary operators for emergency cases, the rental of the space, etc.

The percentage is low when compared to its own budget, but not to other congresses, i.e. the total cost impact was higher compared to virtual congresses. This data allows to project the average costs in the future hybrid congresses.

The following shows the value of the design according to the congress held. It is an item that includes expenses derived from suppliers, commercial requirements and requirements imposed by the collaborating body.

Events, in general, have a designed decoration that changes and is editable according to the moment and situation. It can be observed that virtual congress one (C.V.1) stands out in this aspect. It can be so for several reasons, either for the design and planning of the website itself or the advertising and design of the virtual event. The design of websites, payment platforms, welcome emails or even letters or packages sent as an invitation or gift, are part of this expense item. It is important to highlight the adaptation to the new virtual market. In the past, websites, registration and payment platforms were generally provided by the congress committee itself, even when the requesting entity managed the platform. Nowadays, virtual events include this process in their planning, thus offering a new service that entails expenses that return in another way in the form of income.

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The virtual congress two (C.V.2) leads all types of expenditure that must do exclusively with virtuality, an item that corroborates this is the general design of the entire event, even the virtual rooms, virtual scenarios and animations come out of this item, as well as the expense of the fees of the professionals who provide support in this type of issues. In comparison, the hybrid congress (C.H.1) remains at a standard average, where the agreed requests are given by its facilities, considering that invitations, lunch, and dinner vouchers, etc., are part of this branch of expenses.

Speaker is "said of a magistrate, a civil servant or a member of a collegiate body or assembly appointed to report on a matter and propose a resolution" (Real Academia Española, 2014). "Speakers" is an item of expenditure that is in line with the invitations made to professionals for the presentation of the topics of interest to be carried out during the duration of the congress, as well as the fees requested for their interventions.

These roles are accompanied by moderators, auxiliary staff and room technicians who also form part of this item. These expenses vary according to the capacity of the congress and its style, as there are congresses where there are different roles with their respective administrative bodies, and then others, where there are fewer but more expensive roles, including round tables or the organisation of meetings within the congress venue itself.

In the cases of the virtual events, in virtual congress one (C.V.1), the cost of the management for the speakers to have their space well managed was low compared to the others and the speakers' fees were higher respectively. In the case of virtual congress two (C.V.2), the expenses for the platform and its management were high, therefore, the speakers had more time for their talk or booking in the planning of the event program, and therefore, they had more broadcasting time.

This leads to high costs, although the costs per speech are quite low, which means that, even taking into account a longer speech time, the fees are lower. Despite the particularities, virtual event two (C.V.2) had the lowest expenses per speaker of the average of the five congresses. In virtual events three (C.V.3) and four (C.V.4), there is a discrepancy in the data, concerning virtual congress three (C.V.3). The percentage is high, with planning expenses within the average and an average attendance that could be considered normal.

Virtual congress four (C.V.4) is a priori the most participative, with the highest number of attendees, and has a very affordable average cost per speaker, as it cuts back on other services, such as design, catering, platform, management, etc. Thus, the customers are more interested in the quality of the virtual design and other aspects than in the amount of information to be presented at the congress as such. It can be seen that the speakers' fees are either very low or very few speeches are programmed.

In the hybrid congress (C.H.1), the expenses for presentations are very well managed due to the number of attendees. They are in line with the expenses and income, with few rooms for presentations and therefore few speakers. Taking into account that there was a virtual part, it could have been exploited more when it comes to marketing due to its easy accessibility from anywhere with internet and wifi. This is also due to a lack of habit and inexperience, as this modality is a new topic to be dealt with and needs to be included in all departments when organising a congress. Overheads are divided according to fees paid to professional conference and event organisers, or expenses incurred by professionals who are not classified as professional conference and event organisers.

Expenses borne by the technical secretariat, which is part of the company organising the congress, can be presented as professional fees, per diems (professionals only), clothing, equipment, and so on. Analysing, the virtual congresses one (C.V.1) and two (C.V.2) had a higher expenditure than all the others.

This may be due to the difficulty in combining all the tasks carried out by the staff, for which a high degree of specialisation may have been required, which is then reflected in the cost of fees. Virtual congress one (C.V.1) required highly trained staff to provide virtual on-site support for the congress, as did virtual congress two (C.V.2) which, despite having a

significant drop in attendance, required, at first glance, a fairly high level of involvement, as can be seen throughout the analysis.

Virtual congresses three (C.V.3) and four (C.V.4), either because of the described requirements or because of the experience gained previously or even because of the requirements or services presented, needed less professional attention or less technical support because of the qualities of the virtual congress itself, although participation was quite large in one of them.

The hybrid congress (C.H.1) is more predictable since on average the same professionals usually attend all the congresses organised by the company. Support may be required, but the cost of the fees is not very variable, since the cost of the technical secretariat in on-site model is usually fixed and then complemented with bonuses and extras, assistance, travel, required documentation, staff movements, etc.

76 The heading "Others" is a very recurrent topic to contain expenses of the event that are not associated with another defined items, during or after the event. In a face-to-face or hybrid mode, it is easier for a professional to find and justify expenses that are found, as these are expenses incurred during the congress such as stand construction, energy supplies, expenses such as gifts or envelopes that are handed out with invitations and documentation, requests for recycling containers, lanyards, office material necessary for the use and development of the congress (López, 2020).

In virtual congresses, other types of expenses are observed while many of the previous ones are eliminated. No or very few physical items are provided. On the other hand, other expenses are found, such as support from commercial companies dedicated to the reception and confirmation of e-mails for advertising and promotion of the congress, and support companies for the authentication of the networks used to connect to the congress. This item includes the periodic sending of congress newsletters on an estimated date, which include advances of the programme, speakers confirmed up to the date of sending, speakers invited by collaborators, and even apps of the congress itself managed and created exclusively for its use during the duration of the congress, something that is fashionable nowadays in virtual congresses for signaling pending appointments with colleagues or friends within the event, updates of the programme and so on.

In general, these are expenses that are not included in any of the previous items, generated during the congress and not belonging to any of the previously budgeted items. In the virtual congresses, the percentages are quite low for what was expected; unnecessary expenses have been eliminated. However, a gap is observed in virtual congress three (C.V.3) and an exponential drop in virtual congress four (C.V.4), where expenses such as assets or stages have been incurred.

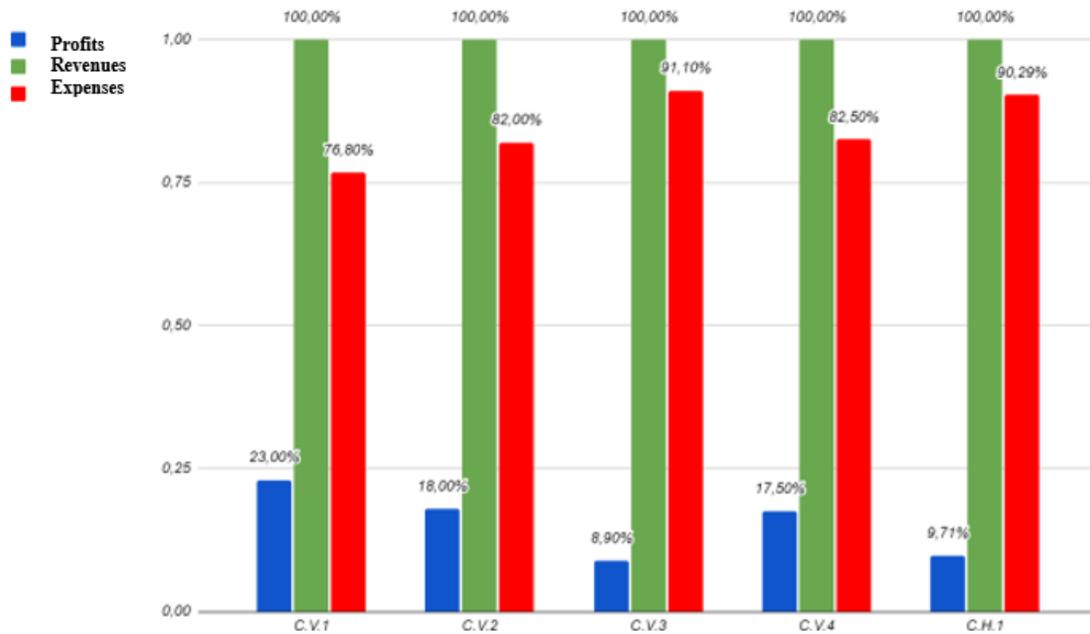
In the hybrid congress (C.H.1), this is a normal percentage, which generally decreases and increases progressively according to the number of attendees, as this is usually linked in almost all of them to the issue of documentation and prior preparation of the material to be used at the time of the congress, as well as external help and support platforms.

Economic and Financial Assessment

The economic viability of many companies was called into question by Covid19, yet all of them have taken relevant solutions to take advantage of possible opportunities. Following the above analysis, companies in the MICE sector have taken the path of virtuality until other, better ways are found that also provide financial muscle to the companies. Therefore, the analysis is focused on finding if the events have provided a series of objectives that were sought from the beginning, technical and economic viability, as well as environmental and social viability. Technical feasibility is based on the resources available to the organisation, the capacity and technical equipment, and its operation system, in addition to the computer systems and programmes used to carry out its activities (Posgrados Empresariales, 2019).

The company providing the information for the study notes that its adaptation was quick, although not free of doubts when it came to implementing new processes that had not yet been put in place. However, its professionals were more than sufficiently prepared. The infrastructures at their disposal were not prepared to withstand such events, but external reinforcements were available.

Graph 6. The ratio of profits, revenues and expenses.



Source: Own elaboration based on data provided by the anonymous company. Profits=Revenues-Expenses.

Profits suppose between 9 and 23% of revenues, as the comparison in graph 6 shows. 100%

is assigned to revenue, as these are inflows for the company. The profit item shows an average of 15.42% per congress, the virtual congresses one (C.V.1) and two (C.V.2), are the ones that received the most profits for their expenses items with a variable rate of 53.8% and 64% respectively.

The hybrid congress (C.H.1) shows comparatively low profits, taking into account the work involved in organising a semi face-to-face type of congress nowadays. All the items include the VAT rates for the services provided, which are generally 21% in Spain, except for restaurant and catering which have 10% VAT in case of Spain (Gavilán, 2021).

Economic viability can be measured according to different formulas based on financial elements, rates of return, payback periods and time value of money (López, 2003). In this case, it is difficult to find the method to be used, since the data provided and analysed were percentages and not whole numbers which can be counted. Nevertheless, some of the most relevant formulas for congress and event companies that open a new line of business such as virtual events are analysed below.

78 In case of estimating the activity of the company organising events, formulas such as NPV (Net Present Value) could be used, which helps the company to know whether future cash flows applying discount rates create value or destroy it. Then, the IRR (Internal Rate of Return) can be used, which by finding the rate that equals the NPV to zero, measures the gain (or loss) concerning the cost of capital. Both NPV and IRR are total measures of profitability (Mascareñas, 2010).

However, methods such as the payback period help the indicators proposed above, measuring the time that must elapse for the accumulation of net profits to cover the initial investment (Lledó, 2007). Finally, the ROI formula can be used in this type of investment, which is a method that measures short-term profitability. In this case, the study contains an analysis of income and expenses close to the ROI calculation, which has helped the company to mark a short-term rate of return, thus giving the go-ahead to the creation of events of this type.

CONCLUSIONS

The virtual congresses carried out by the company have had conclusive benefits, which allowed them to remain active and open up new opportunities in the short-term future, as it can be seen in the analysed data. Social viability is established through marketing techniques, methods of attraction and ways of thinking. People are collaborative due to the current moment specificity, as it is a way to progress and advance, as well as to implement new social relation methods, which make people think and have new perspectives. As it is shown in this study, virtual or hybrid events are becoming more and more accepted by the

public and the sector. The creation and execution of the event, as well as possible impacts derived from the activity that affect the environment are minor and thus environmental viability is high.

The data collected reaffirm the need to reinvent and create new virtual and/or hybrid experiences within this type of business and within the congress tourism sector. Furthermore, it is an imperative to create new smart and sustainable ideas to improve the overall experience of value chain participants.

Virtual events are an economically viable outlet. It would be preferable for them to be discovered before Covid19 and to be implemented in a less forced and more creative way. Virtuality in events is one more way of creating new lines of business that have been implemented before in other sectors, even if they have never been experimented within this one, due to the type of tourism, its predispositions and associated preferences. The social dimension of virtual or hybrid events is being increasingly accepted by the public and the sector, which makes it more viable to continue along this line.

Although proximity and contact are key concepts that define face-to-face congresses and events, the future lies in a mix of both modalities, not only because of the enrichment of revenue streams but also because of digital progress and the new global doors that are opening up with the virtual or hybrid format. This type of meeting will become more common, if not the norm when it comes to organising congresses and professional events.

In terms of the economic environment, companies are still looking for profitability, so this type of meeting will help to eliminate unnecessary expenses, establish a starting point in the sales of services and seek a higher profit. An example of this would be transport, which is drastically reduced, also positively affecting environmental sustainability.

Further studies on the feasibility and economic impact of this type of events in the broad sense are needed, especially in terms of the positive externalities that they can bring. As it has been noted, virtual or hybrid meetings currently seem to have a much lower revenue stream than face-to-face or on-site events (venue, catering, etc.). It would also be advisable to study and consider the structural costs of the organising company, which, as previously announced, are not included as the subject of this study.

It would be possible to analyse further whether with this type of new business the company must host more congresses to remain stable or increase its economic level. In any case, this first approximation can be of help to experts in the sector and academics in the area, especially in what refers to the composition of the main economic-financial flows of the organisers of this type of event.

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Redefining Corporate Social Responsibility and its relation to Sustainable Development Objectives

Redefiniendo la Responsabilidad Social Corporativa y su relación con los Objetivos de Desarrollo Sostenible

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ABSTRACT

The objective of this investigation is to redefine Corporate Social Responsibility (CSR) and its relation to Sustainable Development Objectives (ODS) based on organizational performance and competitiveness. The importance of including in those items new dimensions that currently acquire the item of sustainability in organizations. The main conclusion is that Corporate Social Responsibility constitutes one of the global efforts to translate sustainable development into something concrete and measurable.

Keywords: Corporate Social Responsibility, Sustainable Development Objectives, Organizational Performance, Competitiveness.

JEL CODE: M14



RESUMEN

El objetivo de esta investigación es redefinir la Responsabilidad Social Empresarial (RSE) y su relación con los Objetivos de Desarrollo Sostenible (ODS) basados en el desempeño organizacional y la competitividad. La importancia de incluir en dichos ítems las nuevas dimensiones que adquiere actualmente el ítem de la sustentabilidad en las organizaciones. La principal conclusión es que la Responsabilidad Social Empresarial constituye uno de los esfuerzos globales para traducir el desarrollo sostenible en algo concreto y medible.

Palabras clave: Responsabilidad Social Empresarial, Objetivos de Desarrollo Sostenible, Desempeño Organizacional, Competitividad.

Código JEL: M14

INTRODUCTION

Over time, good social responsibility practices have gained importance, thanks to their implementation in organizations, not only as a tool for damage mitigation and building ideas for the company's wellbeing, but also as a strategy to convince the community about the effect for which they were proposed and their impact on the future.

If you consider each one of the different environments, it could be said that from the social environment you can see an outlook showing little access to education, reduced investment in the health system, which difference, because of the pandemic, can be noted between countries and a lacking promotion of culture and values. With respect to the economic field, failure to take advantage of resources, the absence of satisfaction of basic needs, together with neglect for human rights, are concerning situations. And finally, the abandonment of the environment, contamination, deforestation, and the excess use of natural resources tell how difficult this situation is.

The role this scene imposes on companies results in a new challenge its organizational evolution. Assuming social responsibility, no longer as philanthropy between charity labors, nor as a standard of publicity competence or placement in rankings, but as a commitment to perform transparent actions with balance between the economic, social, and environmental benefit (Camarán, Barón & Rueda, 2019).

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For this, Ojeda (2008) mentions that Corporate Social Responsibility (CSR) is a management tool that has been added to the strategic plans of the company little by little to contribute to its positioning as an entity capable of reconciling its economic goals with the company's objectives.

In this sense, the 2030 Agenda for Sustainable Development takes on a leading role, approved in September 2015 by the General Assembly of the United Nations. It established a transforming view toward economic, social, and environmental sustainability of the 193 subscribing Member States, becoming a planning tool for countries, both nationally and locally. The agenda includes knowledge of the 17 Sustainable Development Objectives (SDO), which translate to 169 goals, as a guide for analyzing and formulating the means with which countries may reach this new view of sustainable development.

In this context, what is the relationship between corporate social responsibility and the SDOs? What role do organizational performance and competitiveness have in that relationship? Is it important to implement social responsibility actions in organization development? Are environmentally sustainable companies more competitive? This work

Redefining Corporate Social Responsibility and its relation to Sustainable Development Objectives

attempts to address all these matters. For this, a review of works and literature by authors and/or institutions specialized in business sustainability is made.

Together with updated literature on corporate social responsibility, sustainability, organizational development, and business competitiveness, as well as the most relevant reports on the evolution of the SDOs, has been analyzed. Based on these analyses, there is a consensus between them with respect to the bond between social responsibility, organizational performance and competitiveness for the organizations and incorporation of SDOs in business strategies of new opportunities in the business world.

THEORETICAL FOUNDATION

Corporate Social Responsibility

Currently social business responsibility is increasingly more important and is a crucial aspect for companies and their directors (Lu et al., 2014; Hernández & Sánchez, 2016). Kliksberg (2016) mentions that from a company only and exclusively concerned with maximizing earnings in as little time as possible, it become a philanthropic company resulting from historical-social pressures, the donations from companies growing for specific causes.

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According to the definition of the term Social Responsibility (SR) in the green book, it refers to “the voluntary integration by companies of social and environmental concerns in their business operations and in their relations with their partners”, for which this definition was used in the decade of the 70s.

However, this term was not yet well known by companies at that time. Therefore, there were few business initiatives to contribute to SR at that time. Therefore, a significant conceptual leap took place with the pressure of broad sectors or social actors, establishing the theory of the stakeholders, which proposes that the company has the obligation of rendering account to all those involved in its actions, on which a great part of its success depends, these actors being their own employees, the consumers, public opinion, the government, mass media and civil society, which, together with a new growing protagonist, social networks, demand that the company break previous paradigms and become “The Company With High CSR” (Camarán, Barón & Rueda, 2019).

To that effect, Ojeda (2008) indicates that companies, to meet this challenge, must implement strategies consistent with this view, for which they must develop actions that contribute to the wellbeing of all actors involved in a relationship of shared value (Gutiérrez, 2018).

However, this idea has changed as companies have discovered therein the possibility of achieving an organizational benefit that allows them to generate value and obtain advantages, such as improving their corporate image, having marketing advantage that allow them to increase customer loyalty and in turn position themselves in the market, innovating from their processes, attracting new investors, Jenkins (2009); having better performance in annual reports containing non-financial information and even obtaining tax or fiscal benefits upon presenting this kind of information publicly (Quintero & Ramírez, 2016).

Therefore, it is here where a critical point can be addressed that cannot continue being overlooked when there will be many generations that will follow the example, they receive from those who are now at the helm of this ship that includes us all. In this sense, the proposal of the Economic Commission for Latin America and the Caribbean (CEPAL) aimed at orientating, encouraging, regulating, and promoting CSR through the 17 Sustainable Development Objectives (SDB) assumes special interest, which translate to 169 goals to be referenced hereafter.

Sustainable Development Objectives (SDO)

In the year 2015 the UN announced the SDO, and the Global Reporting Initiative, the United Nations Global Impact and the World Council for Sustainable Development collectively published the compass of the SDOs (Johnsson et al., 2020). The compass is a five-step guide to help understand, manage, and measure its contribution to the SDOs, and its presentation is linked to social responsibility, since it is part of the international standards and encourages companies to minimize negative impacts on the company and the environment (Remacha, 2017).

The SDOs are the result of a joint effort between the government's member countries, civil society, the academy, and the private sector. They include 17 objectives, 169 goals and 232 indicators of associated results, who shall define the agenda of the international community until 2030 (Camarán, Barón & Rueda, 2019). The SDOs are specifically aimed at making known the importance of them being applied in such a manner that the organizations execute the promotion of sustainable development together with the intentions of the company De Villiers, Kuruppu and Dissanayake, (2021), always taking into account the factors that influence the organization when implementing objectives such as financial, since it is possible for there to be certain investments for them to change corporate practices, all of this in order to manage for organizations to reduce possible negative impacts hand in hand with the sustainable objectives portfolio (Caraballo, Muñoz & Parra, 2021).

The summary of these objectives arises from the need to give continuity to the project that began at the start of century XXI, the majority of which were focused on resolving third world problems. They addressed economic, social, and environmental aspects, paying special

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attention to the importance of peace, justice, and solid institutions to achieve sustainable and equal development, this being their main roadmap (Sanahuja, 2015; Duarte, 2017; Remacha, 2017).

Thus, the scope of the 2030 agenda is focused on and extends to all countries, independent of their degree of development, and each nation, based on their priorities, shall establish their guidelines to achieve compliance with this agenda (Cantú, 2016a; Cantú 2016b).

In addition, it also covers the representatives of the business world, who have had a leading role in the formulation of the SDOs, the companies needing to assume key leadership for these SDOs to be able to be implemented (Red Española del Pacto Mundial de Naciones Unidas, 2016).

The key to meeting the SDOs is the responsible behavior of companies. The international community expects for the companies to assume the SDOs as a central part of the business. Given the history of social responsible, companies have a preamble for meeting SDOs Amodu (2020). Through social responsibility, the private sector addresses ethical, social, economic, and environmental challenges, as well as offering management tools to cover what is established in the SDOs. Remacha (2017) mentions the following management tools:

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- Corporate culture, regulatory compliance, international standards, identification, impact measurement and follow-up, management systems, dialogue with groups of interest, promotion of responsible behavior throughout the chain of value, due diligence process, transparency and intersectoral alliances (Tsoi, 2010).

To recognize that an organization acts with social responsibility, it is required that the concept of Social Business Responsibility (SBR) be incorporated to its administrative and quality management processes and, therefore, that it be a fundamental part of its business strategies and business planning (Porter & Kramer, 2006).

This companies' role in the contribution of the SDOs can be addressed based on three non-excluding focuses with a different return, according to EY Mexico (2015):

- Development of Philanthropic actions not related to the company's activities, through which it is sought to contribute to improving the social and environmental conditions in which the company operates or not, which have mainly a reputational benefit.
- Implementation of initiatives related to the organization's operations to reduce and eliminate negative impacts and enhance those that are positive for the groups of interest. In this case, the returns for the company are diverse upon including the

possible progress in operational efficiency, cost reduction, attraction and withholding of talent, interest, and loyalty of customers, among others.

- Development of innovative products and services, in the framework of the business activity sector, which contribute to the goals established for the SDOs, while at the same time generating new business opportunities.

For which, the companies move in such a way that the objective is to create and implement sustainable development models including all specific aspects of the SDOs that lead to implementing them in an organization with an aspect such as social inclusion, since it guarantees the success of the implementation and fulfilment of the SDOs, this in satisfaction of possible challenges existing in the process of carrying out in the organizations. Those objectives mainly address the eradication of poverty, protection of the planet and securing of prosperity for all (Graph 1). For which each objective has a goal described below in table 1.

Graph 1. Sustainable Development Objectives



Source: UN (2022).

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Table 1. Goal of each one of the Sustainable Development Objectives

<i>Objective</i>	<i>Objective definition</i>
1. End of Poverty	Put an end to poverty in all its forms in the entire world.
2. Zero Hunger	Put an end to hunger, achieve food safety and improve nutrition and promote sustainable agriculture.
3. Health and Wellbeing	Guarantee and healthy life and promote wellbeing for all at every age.
4. Quality Education	Guarantee inclusive, equal and quality education, promote learning opportunities throughout life for each and all.
5. Gender Equality	Achieve equality between the genders and empower all women and girls.
6. Clean Water and Sewage	Guarantee the availability of water and its sustainable management and sewage for all.
7. Affordable and Non-pollutant Energy	Guarantee access to affordable, safe, sustainable and modern energy for all.
8. Decent Work and Economic Growth	Promote sustained, inclusive and sustainable growth, full and productive employment and decent work for all.
9. Industry, Innovation and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and promote innovation.
10. Inequality Reduction	Reduce inequality in and between countries.
11. Sustainable Cities and Communities	Manage for human cities and settlements to be inclusive, safe, resilient and sustainable.
12. Responsible Production and Consumption	Guarantee consumption modalities and sustainable production
13. Climate action	Adopt urgent measures to combat climate change and its effects.
14. Submarine Life	Sustainably preserve and use oceans, seas and marine resources for sustainable development.
15. Land Ecosystem Life	Promote the sustainable use of land ecosystems, fight against desertification, detain and invert degradation of lands and freeze loss of biological diversity.
16. Peace, Justice and Solid Institutions	Promote pacific and inclusive companies for sustainable development, facilitate access to justice for all and create efficient, responsible and inclusive institutions for all levels.
17. Alliances to achieve objectives	Strengthen execution and revitalization measures of the World Alliance for Sustainable Development.

Source: UN (2022).

Generally, considering the remaining time (minus 10 years) to achieve those Sustainable Development objectives, in the last Summit on the SDOs held September 2019, the world leaders requested a dozen actions and results in favor of sustainable development, and promoted mobilizing financing, improving the application on a national level and reinforcing institutions to achieve the objectives on the provided date, given that, in the 2020-2030 the need to act before growing poverty, empower women and girls and face climate emergency is fundamental. This was called the decade of action, which demands accelerating sustainable solutions aimed at the main challenges of the world; adding inequality and closure of financial gaps to those already mentioned.

Therefore, given the above, there is no doubt that the SBR has become an unavoidable priority for companies and their directors, for which the implementation of the SDOs is an imperative requirement, which justifies this investigation work.

Organizational performance

The performance of organizations is conceived in different ways in the theory of administration, in general, and in the theory of strategy. As Camisón and Cruz (2008) indicate, “the lack of consensus in literature on the content of this construct arises from the differences in the dimensions that form it and the adequate indicators to completely cover its domain”.

Organizational performance is linked to indispensable concepts for the company such as efficiency, effectiveness, and the financial part. For this, the inflow and outflow of resources, business growth, assets, investment return and profit growth are elements to measure organizational development. However, to this one must add the organization’s objectives with respect to operating profit, that is, the company’s profitability, the strategy regarding the increase of sales, market expansion and innovation in products, and finally the satisfaction of the customers and employees (Lee & Miller 1996; Gopalakrishnan 2012).

For this, the traditional form of measuring performance is through economic-financial results (David, 2008). If we take authors related to strategic planning, such as Hill and Jones (2011) or David (2008), performance is seen because of the competitive advantage of an organization and is related to value creation.

For this, companies relate organizational performance with fulfilling what is related to their mission, objectives, and goals; but it goes beyond this, toward growth in its totality in the organization, obtaining positive financial results (Langerak, Hultink & Robben, 2004).

The performance then covers something more than the economic aspect and is the combination of many variables -related to costs, leadership, power, government, ethics, demand, competitors, adaptability, and others- that end up obtaining a result that is measured and evaluated to make decisions thereafter. These variables must be valued both in the economic plan and in the social and environmental plan to incorporate the notion of sustainability in the environment of the organizations (Amato, 2014).

Thus, an organizational transformation is generated, that is, the organizations are information, communication, and decision-making systems, where the human being is he who marks the difference between each one of them to determine their approximation to success or failure.

Therefore, if a company is successful, it is due to the individuals responsible for carrying out the processes within the adequate communication, information management and decision-making schemes and, therefore, tangible, and final and/or intermediate deliverables as of the fulfillment of objectives (Tamayo, Del Río & García, 2014).

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It is here where that relationship between social responsibility, the SDOs and organizational performance begins to be found; that is, in the development of the strategic human resource (DHR).

It is extremely important to consider the strategic management of human resources since they impact the organization's results. It is here where theories appear such as that of resources and capacities. Barney (1991) mentions the assumptions and capacities that guide these theories: "heterogeneity and immobility of resources, on the fulfillment of four conditions: valuable and scarce, competitive advantage generators, imperfectly imitable, and not substitutable, aimed at sustainability (Parra & Toro, 2014).

Therefore, the organizational commitment defined by Hernández and Castro (2015),

"consists of the strong intrinsic of identification and involvement of a person with a certain organization, generating external conducts (the consequence of the commitment) of appropriation and defense which are ultimately beneficial for the organization to be made palpable and measurable".

For this, the investigations of Hernández and Castro (2015), where there is a high correlation between Internal Social Responsibility (ISR) and Organizational Commitment, given that the practice of ISR directly influences the worker's wellbeing, and therefore their organizational commitment is greater. If an organization is not socially committed to its workers as a starting point, it will hardly do so externally.

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Sustainable competitiveness

The concept of competitiveness has evolved over the years. The standard definition of competitiveness based on productivity and market shares has expanded, such that it now includes elements such as social prosperity, inclusion, environmental quality, and is increasingly more linked to the quality of products and technological innovation (Andreoni & Miola, 2016).

The World Economic Forum defines sustainable competitiveness as "those factors that guarantee the long-term productivity (of a country) while ensuring social and environmental responsibility" (WEF, 2015).

Thus, the concept of competitiveness incorporates new elements beyond a merely economic focus and includes aspects that contribute to wellbeing (WEF, 2015). However, getting back a bit to the traditional concept of competitiveness, linking productivity and economic growth, it is found that more competitive countries are more sustainable and, therefore, they show better performance in the 2030 Agenda, and it is here where it begins being related to the SDOs (Walsh, Murphy & Horan, 2020).

Therefore, the World Economic Forum has published since 1979 an annual evaluation of the competitiveness of countries, understood as “the set of institutions, policies and factors that determine a country’s level of productivity” (Thore & Tarverdyan, 2016; WEF, 2019; Alvino et al., 2020); allowing economies to be evaluated based on indicators (131), grouped in subjects (12), which influence the productivity and economic growth of those countries. A scale of 1 to 100 is used for each indicator and shows how close an economic condition is to reaching the ideal frontier of competitiveness. The elements evaluated are the share capital, the macroeconomic stability, the financial system, the labor market, or the innovation capacity, among others (WEF, 2019).

Based on the above it should be emphasized that according to that analysis, the comparison shows the level of competitiveness of those countries with a better performance in the SDOs and proves if there is really any corresponding between the two indices. Therefore, the existence of correlation between the development of the SDOs and the competitiveness of countries is extremely important (Zheng et al., 2021).

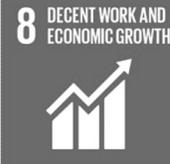
Thus, according to the different investigations it can be inferred that the economic capacity of a country is fundamental in the development in the SDOs, and therefore the sustainability has an impact on the competitiveness of countries in the traditional sense, which concludes that it is extremely imperative for countries to bet on sustainability aligned with the SDOs for a better organizational performance, and therefore better competitiveness (Khan et al., 2021).

The SDOs and their implementation in the organization

If a company acts according to and is aligned with the SDOs they will receive benefits in their operating strategy and management. Therefore, it is important to emphasize which of the SDOs have greater representation and importance in the organization. According to the analysis that has been developed throughout this article, it is important to indicate the strategies organizations are developing and implementing according to the SDOs (Table 2):

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Table 2. SDOs that receive contribution from organizations

<i>SDOs and their goal</i>	<i>Strategies in organization that contribute to the SDOs</i>
 <p>Put an end to poverty in all its forms in the entire world.</p>	<ol style="list-style-type: none"> 1. The economic benefits offered in the company recompense the needs of their employees. 2. Incentives are offered by the company to acknowledge good work. 3. Pays its employees fair wages.
 <p>Guarantee and healthy life and promote wellbeing for all at every age.</p>	<ol style="list-style-type: none"> 1. There are programs that promote and facilitate the healthcare of its employees, even outside the workplace. 2. A preventive culture in terms of health is promoted. Active pauses are held during the work shift for worker rest and relaxation. In addition, staff are trained in safety and health through discussions and workshops.
 <p>Guarantee inclusive, equal, and quality education, promote learning opportunities throughout life for each and all.</p>	<ol style="list-style-type: none"> 1. Conditions in professional progress in equal conditions are compensated and generated. 2. Investment is generated in staff training and ongoing learning of workers. 3. The staff is constantly learning in their company.
 <p>Promote sustained, inclusive, and sustainable growth, full and productive employment, and decent work for all.</p>	<ol style="list-style-type: none"> 1. Balance between work, family and leisure is generated. 2. There is flexibility with respect to delivery times and deadlines. 3. There are activities that promote labor relations, companionship, and union between employees. 4. Employees are treated fairly (without discrimination or abuses).
 <p>Build resilient infrastructure, promote inclusive and sustainable industrialization, and promote innovation.</p>	<ol style="list-style-type: none"> 1. The facilities are resilient and of quality, also in the supply chain, to ensure the wellbeing of all company employees and providers. 2. In the company information technologies and communication (ITC) are available for all employees. 3. Uses local labor and providers. 4. Promotes the use of public transportation for its employees. 5. Employees have green areas and shares and accessible spaces in the facilities. This includes a dining area equipped with installations and utensils for enjoying meals.

 <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	<p>Manage for human cities and settlements to be inclusive, safe, resilient, and sustainable.</p>	<ol style="list-style-type: none"> 1. Programs are established to decrease the environmental impact of their operations, to avoid environmental crises that impact the population's nutrition. 2. Respects current legislation. 3. Meets international standards.
 <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<p>Guarantee consumption modalities and sustainable production</p>	<ol style="list-style-type: none"> 1. Has minimized atmospheric, water, soil, and acoustic pollution in services processes. 2. Has promoted clean production through elements free of toxic substances. 3. The design of its products and packaging is reusable and recyclable. 4. There is preference for the use, purchase, and production of ecological products.
 <p>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p>	<p>Promote pacific and inclusive companies for sustainable development, facilitate access to justice for all and create efficient, responsible, and inclusive institutions for all levels.</p>	<ol style="list-style-type: none"> 1. Complies with national and international legislation on human rights, both in its direct operations and through the supply chain. 2. Develops an ethics code. 3. Has a crime and fraud prevention policy. In the supply chain it uses anti-bribery policies and norms.

Source: Own elaboration.

As seen in the above table, there is in increasing business awareness toward social responsibility as well as the SDOs, organizations are increasingly more objective in understanding the benefits of aligning with the objectives of the 2030 agenda, such as:

- Anticipating legislative regulations and initiatives
- Identifying future business opportunities
- Generating strategic alliances with Groups of Interest
- Improving possibilities of accessing tenders with the public sector
- Greater efficiency and cost reduction
- Improved reputation and increased trust in the market
- Greater talent withholding and collection
- Greater access to financing (Brockmyer & Fox, 2015).

Therefore, it is important that all companies, organizations, and public administrations of the world work to achieve the SDOs and ensure a sustainable future for all. The integration of the SDOs in the strategies of organizations is a fundamental element to increase the positive impact of organizations and manage relations with all groups of interest.

LITERATURE ANALYSIS: REALITIES AND CONTRIBUTIONS

Sustainable companies, more competitive companies

According to the above information on the different contributions in the investigation, betting on sustainability offers large advantages to the companies Rondinelli and Berry, (2000). First, it makes it possible to reduce the risks due to the emergence of legislation on non-financial information throughout the world that is taking place today, obligating companies to adapt sustainability reporting processes to the financial report. For this, it is recognized that the company generates a risk premium such that those sustainable activities shall enjoy a competitive advantage and the more sustainable companies may obtain more financing in better conditions. On the other hand, those less sustainable companies would obtain less financing at higher costs (Forética, 2018).

In addition, addressing matters related to sustainability allows companies to improve their brand image and obtain reputational advantages, as well as reinforce trust by the company, save costs, increase employee satisfaction, and improve talent attraction, promote innovation of their products and services, access new financing resources and improve relations with groups of interest (Berns et al., 2009). For this, following the SDOs, organizations must focus on four elements:

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- Social objectives: by focusing on an organization's social objectives can be contemplated within its strategic planning (Mission, Vision, and policies). These objectives generally contemplate the goal the organization can offer for its collaborators, the environment, and their surroundings. By using the resources, the company provides some organizations contemplate the generation of social value in exchange for them. Some of the offered benefits contemplated for organizations may be labor, financial support, good treatment in the workplace, water treatment, reforestation, support to foundations, among others.
- Economic objectives: with a view toward the companies, those objectives are defined according to the profit generated by the fiscal year earnings and the contributions made by the partners. The purposes of the economic objectives are to maintain and make it possible to grow the company. Although in some cases the earnings may not mean enough to expand the company, they must at least ensure its sustainability and the satisfaction of the collective organizational needs.
- Environmental objectives: considering climate change, many organizations of different sectors have given priority to the issue of the environment, thereby generating indicators, plans and objectives that make coherent and constant monitoring of the environmental status of their environment possible, as well as the impact or contribution the organization may have considered the environment,

understood as the interrelation of the industry and the environment, and showing commitment to it.

- Anti-corruption: Interesting how in current literature you find this subject and transparency to be a part of social responsibility; the SDOs cover the anti-corruption fight and the establishment of an equal society in all its levels. Inside the organization it is sought to support this objective through organizational culture, this directly reflected in the SDOs, where it emphasizes the creation of solid justice systems, transparency in election, role assignment and conflict reduction to establish pacific and ethical institutions in the company. In addition, the SDOs promote the creation of accessible and inclusive institutions for the company, on the other hand, transmitting these ideals in the political framework, focusing government and human efforts on emphasizing corruption rejection (Caraballo, Muñoz & Parra, 2021).

As mentioned above, the SDOs have been consolidated in recent years as the roadmap for global sustainability and companies can obtain significant advantages by incorporating the SDOs in their business strategies (Rubio, García & Fuentes, 2019). The SDOs on a micro level allow the company's progress to be evaluated in terms of sustainability, and thus allow it to establish internal objectives in the response to the SDOs, thereby showing what the business case is for integrating this agenda in the corporate strategy. Now, on the contrary, on a macro level, guidelines are offered to the organizations and to all business sectors to carry out systemic changes that help the company prepare for future challenges (Scott et al., 2019).

At the same time, the SDOs allow companies to structure their sustainability plans. Due to the existing synergies between the different SDOs, improvements in some aspects of the organization may impact the achievement of other objectives. For this, there are strategic opportunities for the organizations by incorporating the SDOs, for they can improve their internal management (relations with employees, customers, and providers) and the external impacts of the company (relations with groups of interest and communities in which it works). Thus, SDOs make it possible to generate new alliances in the business environment with groups of interest (Zimon, Tyan and Sroufe, 2020). Confronting both subjects and recognizing the above, it is important to recognize two positions: the first is from an anonymous author- EY (2015), which proposes that the development of philanthropic actions is not related to the company's activities, for through them it is sought to improve the social and environmental conditions of the environments in which the company operates or not. On the other hand, Duarte (2017) indicates that among other advantages organizations achieve by adhering to sustainable development objectives are those of attracting capital, good relationships with groups of interest, brand strengthening and to that effect customer loyalty, among others (Camarán, Barón & Rueda, 2019). Which confirms for us the initial objective of entities, which is to generate value for their shareholders (Correa, 2020).

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Therefore, there is consensus in the examined works, in that SDOs offer new business opportunities for companies through a business strategy that incorporates aspects of sustainability (Red Española del Pacto Mundial de Naciones Unidas, 2017). Companies can benefit in different ways by incorporating SDOs in their business strategy, and at the same time the business sector can contribute to achieving the objectives. Therefore, the 2030 agenda is due to several factors such as: change agents, social responsibility, and financing.

CONCLUSIONS

It is interesting how there is currently global consensus and a new institutionally that promotes SBR: for which reason companies include socially responsible conducts in their business operations and strategies. Thus, Sustainable Development Objectives (SDO) are an opportunity for companies to expand SBR because they constitute a global agenda with the objective of facing and solving the serious problems the planet currently faces.

In addition, if we add to the above the redefinition of the organizational development to incorporate sustainability as a part of the strategies for the advantage and/or competitiveness in organizations. Since companies can at the same time obtain advantages in their alignment with the SDOs, in turn achieving a link between competitiveness and sustainability. For this, the added value of the analysis of this article is based on the support in the evolution of organizational practices toward sustainable development, as an alternative solution to a pressing economic, social, and environmental program for the company today, as mentioned at the start of this investigation.

Redefining the concept of performance by adding organizational sustainability represents progress in the state of the art, thus the importance of meeting sustainable development objectives, obtaining a relationship between social responsibility, organizational performance, and competitiveness. SBE gives an evaluation framework of organizations, since it helps to establish performance indicators, both of personnel and in sustainable practices or policies.

Sustainable policies must be aimed at the organization being viable, inhabitable, and having fair practices, without setting aside the aspects of profitability, social development and protection and ordering of natural resources. All indicators with which sustainable practices and policies are measured must be clear, informative, practical, comparative, accurate, credible, and reliable.

Therefore, according to what is presented in this investigation, if an organization aligns its strategies according to the stipulations of social business responsibility, the company will be

attacking the problematic principles being faced, for which sustainable development objectives will always be a bet that makes one focus on what is coming for humanity. Therefore, social business responsibility always includes sustainable development objectives to implement them through strategies in organizational development in the competitiveness of organizations.

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FINANCIAL AND ECONOMIC INDICATORS

Sensitivity Analysis and Financial Decisions

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Sensitivity analysis helps to understand the behavior of a model, the coherence between the model and the real world, it also analyzes how the different parts of the model interact, as well as the great variety of problematic configurations that can be found in the model. sensitivity analysis studies, (Saltelli & Scott 1997).

The sensitivity analysis illustrates the variation of the value or result of a model in response to changes in some of its key variables, keeping the value of the other variables constant. The sensitivity analysis is carried out considering one variable at a time and always assuming that there is independence between the different variables that influence or determine the value in the model.

The first step in performing a sensitivity analysis is to identify the main variables that affect the value or result of a model, always considering that these variables are out of our control or that they could be estimated imprecisely, immediately, for each one of the variables, positive and negative scenarios that are reasonable and well-founded must be sought. Finally, the value for each of the scenarios is determined or calculated.

In the sensitivity analysis, two different schools of thought are identified, the “Global” and the “Local”, Saltelli and others (1999):

1. In the local analysis, the response obtained from the outputs, by varying the put factors one at a time, is inverted, while keeping the others fixed at a central (nominal) value. These are partial derivatives, normalized by the nominal value of the factor or by its standard deviation. The analysis is executed in a central point, given in the space of the input factors, the volume of the explored region is null.
2. In the global school, sensitivity analysis is more ambitious in two respects: first, the space of input factors is explored within a finite (or even infinite) region, and second, the induced output variation for a factor is taken globally, that is, it is averaged over the variation of all the factors.



The local sensitivity school has generated impressive results, especially for the treatment of large systems of differential and adjoint equations by the group, (Cacuci, 1981; Oblow et al. 1986).

Sensitivity analysis is one of the most used tools by project managers to analyze, predict and present the expected results of a project to potential investors or stakeholders. Among the multiple benefits of applying sensitivity models in project management, the following are mentioned:

- a) Decision making. Sensitivity analysis facilitates business planning and decision making because of data-backed forecasts. Investment decisions by management are made easier by considering all the variables and analyzing their multiple results.
- b) Quality control. The sensitivity analysis allows identifying the processes that are not generating value in the product, it allows reducing the time in the elaboration of the product, it allows identifying errors early and it facilitates the generation of greater diversification.
- c) Allocation of resources. Sensitivity analysis allows you to identify the strengths and weaknesses in the planning of a project, while measuring its possible impact on the results. This allows organizations to direct tangible and intangible resources to the areas that most need support.

Sensitivity analysis focused on financial aspects allows us to identify and visualize what effects would be had on an investment if certain events were to occur that we had not initially foreseen, for example, what would happen if economic growth is lower than forecast? A financial crisis occurs. How would the current scenario be affected? How is the cash flow affected? How is the NPV affected? Where does the project stop be profitable? Etc. These and many other questions are answered with the support of a sensitivity analysis.

Predicting the behavior of the variables and the results of the possible scenarios through a sensitivity analysis allows the directors of the organizations to make better decisions regarding the business in general and future investments in new projects.

Financial indicators are useful as measures of performance, charting long-term direction and proposing a clear strategy and proper execution.

Next, the evolution of some economic and financial indicators of the Mexican environment is described and shown to facilitate decision-making related to personal and business strategies in an integral manner.

1. National Consumer Price Index (INPC, Spanish)
2. The Price and Quotation Index of the Mexican Stock Exchange (IPC, Spanish)
3. Exchange rate
4. Equilibrium interbank interest rate (TIIE, Spanish)
5. CETES rate of return
6. Investment units (UDIS, Spanish)

1. NATIONAL CONSUMER PRICE INDEX (INPC)

Born in 1995 and reflecting changes in consumer prices, measures the general increase in prices in the country. It is calculated fortnightly by the Bank of Mexico and INEGI (2021). INPC is published in the Official Gazette of the Federation on the 10th and 25th of each month. The reference period is the second half of December 2010.

Table 1. Accumulated inflation in the year (Base: 2nd. Fortnight of December 2010 = 100 with data provided by Banco de México)

Periodo	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Enero	1.48	0.77	0.98	0.79	0.90	-0.09	0.38	1.70	0.53	0.09	0.48	0.86	0.59
Febrero	2.15	1.42	1.47	1.46	1.15	0.09	0.82	2.29	0.91	0.06	0.90	1.50	1.43
Marzo	2.52	1.84	1.55	1.99	1.43	0.51	0.97	2.92	1.24	0.44	0.85	2.34	2.43
Abril	1.98	0.72	0.69	1.81	1.24	0.25	0.65	3.04	0.90	0.50	-0.17	2.67	2.98
Mayo	0.60	-0.70	-0.65	0.95	0.91	-0.26	0.20	2.92	0.73	0.21	0.22	2.88	3.17
Junio	0.49	-0.41	-0.41	1.12	1.09	-0.09	0.31	3.18	1.12	0.27	0.76	3.43	4.04
Julio	0.56	-0.04	0.32	1.14	1.42	0.06	0.57	3.57	1.66	0.65	1.43	4.04	4.80
Agosto	0.91	0.30	0.92	1.31	1.73	0.27	0.86	4.08	2.26	0.63	1.82	4.24	
Septiembre	1.27	0.73	1.12	1.61	2.18	0.27	1.47	4.41	2.69	0.89	2.06	4.88	
Octubre	2.35	2.33	2.12	2.77	2.74	1.16	2.09	5.06	3.22	1.44	2.68	5.76	
Noviembre	3.89	4.87	3.86	4.57	3.57	1.71	2.89	6.15	4.10	2.26	2.76	6.97	
Diciembre	4.19	5.81	3.97	5.21	4.08	2.13	3.36	6.77	4.83	2.83	3.15	7.36	

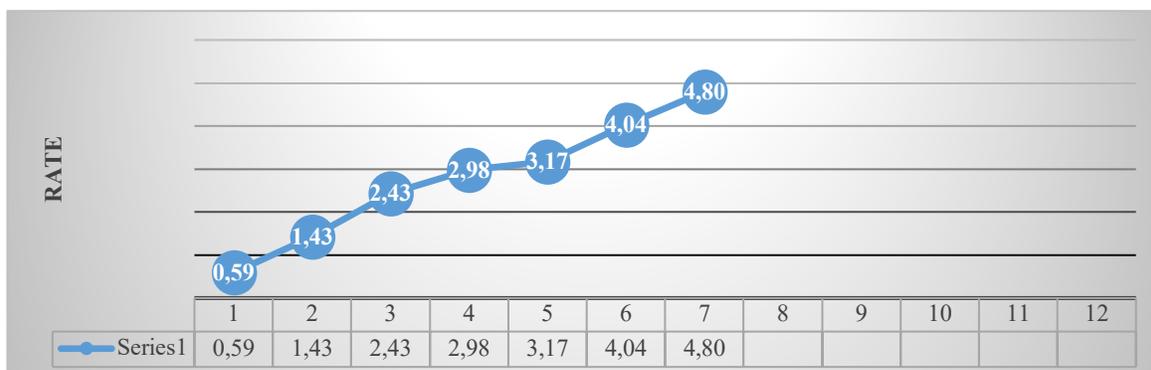
Source: Own elaboration (INEGI, 2022). Route: Indicadores económicos de coyuntura > Índices de precios > Índice nacional de precios al consumidor. Base segunda quincena de julio de 2018=100 > Mensual > Índice > Índice general

Graph 1. Inflation in Mexico (2010-2021 accumulated at the end of the year)



Source: Own elaboration (INEGI, 2022). Route: Indicadores económicos de coyuntura > Índices de precios > Índice nacional de precios al consumidor. Base segunda quincena de julio de 2018=100 > Mensual > Índice > Índice general

Graph 2. Inflation in Mexico (accumulated January-July 2022)



Source: Own elaboration (INEGI, 2022). Route: Indicadores económicos de coyuntura > Índices de precios > Índice nacional de precios al consumidor. Base segunda quincena de julio de 2018=100 > Mensual > Índice > Índice general

2. THE PRICE AND QUOTATION INDEX OF THE MEXICAN STOCK EXCHANGE (IPC)

Represents the change in the values traded on the Mexican Stock Exchange concerning the previous day to determine the percentage of rising or fall of the most representative shares of the companies listed therein.

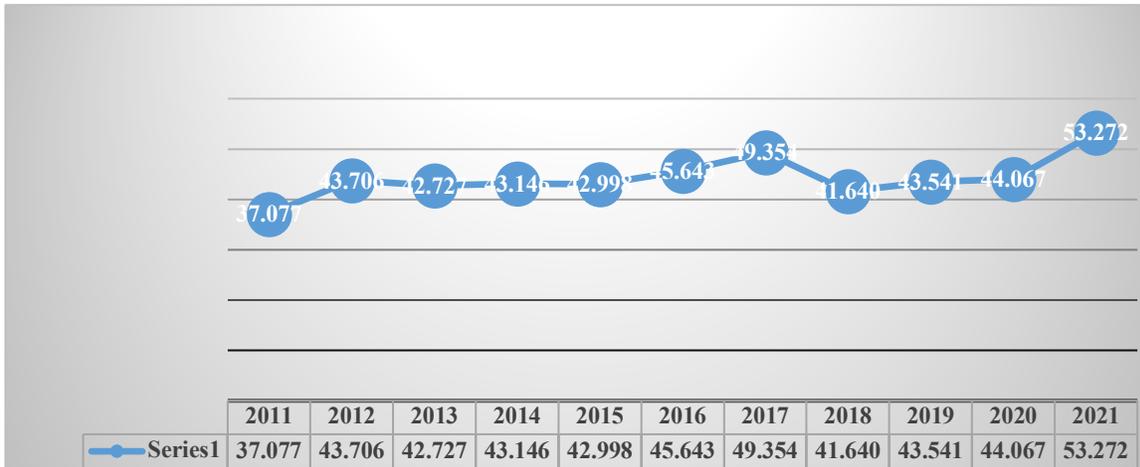
Table 2. The Price and Quotation Index of the Mexican Stock Exchange (Base: October 1978, 0.78=100)

Periodo	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Enero	36,982	37,422	45,278	40,879	40,951	43,631	47,001	50,456	43,988	44,862	42,986	51,331
Febrero	37,020	37,816	44,121	38,783	44,190	43,715	46,857	47,438	42,824	41,324	44,593	53,401
Marzo	37,441	39,521	44,077	40,462	43,725	45,881	48,542	46,125	43,281	34,554	47,246	56,537
Abril	36,963	39,461	42,263	40,712	44,582	45,785	49,261	48,354	44,597	36,470	48,010	51,418
Mayo	35,833	37,872	41,588	41,363	44,704	45,459	48,788	44,663	42,749	36,122	50,886	51,753
Junio	36,558	40,199	40,623	42,737	45,054	45,966	49,857	47,663	43,161	37,716	50,290	47,524
Julio	35,999	40,704	40,838	43,818	44,753	46,661	51,012	49,698	40,863	37,020	50,868	48,144
Agosto	35,721	39,422	39,492	45,628	43,722	47,541	51,210	49,548	42,623	36,841	53,305	44,919
Sep.	33,503	40,867	40,185	44,986	42,633	47,246	50,346	49,504	43,011	37,459	51,386	
Oct.	36,160	41,620	41,039	45,028	44,543	48,009	48,626	43,943	43,337	36,988	51,310	
Nov.	36,829	41,834	42,499	44,190	43,419	45,286	47,092	41,733	42,820	41,779	49,699	
Dic.	37,077	43,706	42,727	43,146	42,998	45,643	49,354	41,640	43,541	44,067	53,272	

Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=7&accion=consultarCuadro&idCuadro=CF57&locale=es>

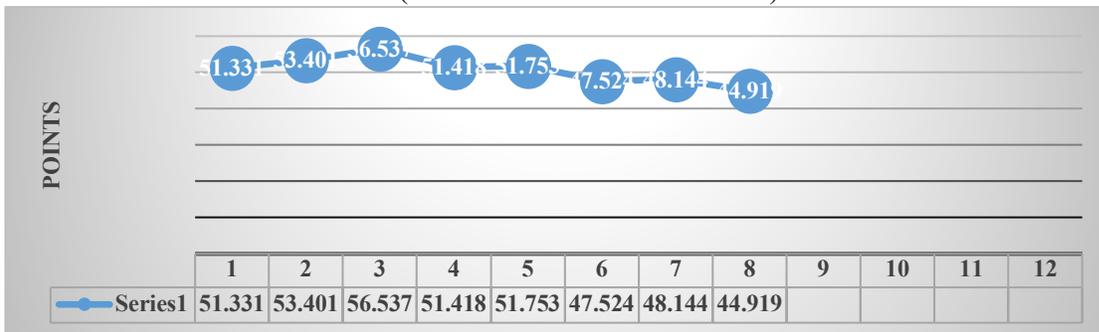
Graph 3. The Price and Quotation Index of the Mexican Stock Exchange, 2010 - 2021 (Score at the end of each year)



Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=7&accion=consultarCuadro&idCuadro=CF57&locale=es>

Graph 4. The Price and Quotation Index of the Mexican Stock Exchange, January-August 2022 (Score at the end of each month)



Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=7&accion=consultarCuadro&idCuadro=CF57&locale=es>

3. EXCHANGE RATE

It is the value of the Mexican peso with respect to the dollar calculated with the daily average of the five most important banks in the country, which reflects the spot price (cash), negotiated between banks. It is highly related to Inflation, the interest rate, and the Mexican Stock Exchange.

Sensitivity Analysis and Financial Decisions

Table 3. Exchange rate (National currency per US dollar, parity at the end of each period)

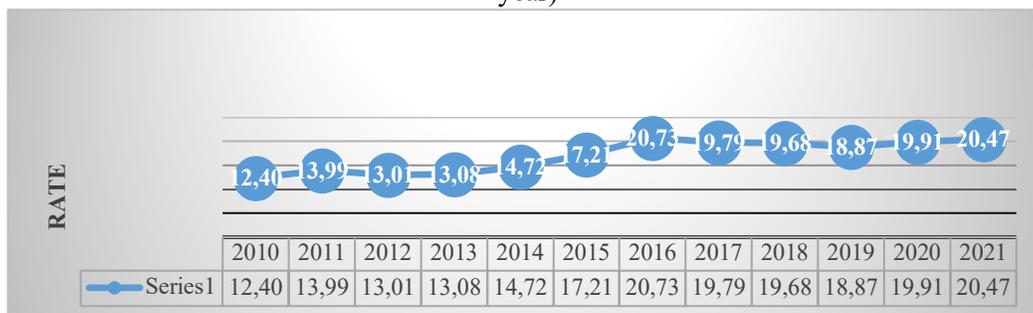
Periodo	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Enero	12.81	12.02	12.95	12.71	13.37	14.69	18.45	21.02	18.62	19.04	18.91	20.22	20.74
Febrero	12.96	12.17	12.87	12.87	13.30	14.92	18.17	19.83	18.65	19.26	19.78	20.94	20.65
Marzo	12.61	11.97	12.80	12.36	13.08	15.15	17.40	18.81	18.33	19.38	23.48	20.44	19.99
Abril	12.24	11.59	13.20	12.16	13.14	15.22	19.40	19.11	18.86	19.01	23.93	20.18	20.57
Mayo	12.68	11.63	13.91	12.63	12.87	15.36	18.45	18.51	19.75	19.64	22.18	19.92	19.69
Junio	12.72	11.84	13.66	13.19	13.03	15.57	18.91	17.90	20.06	19.21	23.09	19.91	20.13
Julio	12.83	11.65	13.28	12.73	13.06	16.21	18.86	17.69	18.55	19.99	22.20	19.85	20.34
Agosto	12.73	12.41	13.27	13.25	13.08	16.89	18.58	17.88	19.07	20.07	21.89	20.06	20.09
Septiembre	12.86	13.42	12.92	13.01	13.45	17.01	19.50	18.13	18.90	19.68	22.14	20.56	
Octubre	12.45	13.20	13.09	12.89	13.42	16.45	18.84	19.15	19.80	19.16	21.25	20.53	
Noviembre	12.33	14.03	13.04	13.09	13.72	16.55	20.55	18.58	20.41	19.61	20.14	21.45	
Diciembre	12.40	13.99	13.01	13.08	14.72	17.21	20.73	19.79	19.68	18.87	19.91	20.47	

NOTE: Exchange rate FIX by The Banco de México, used for settle obligations denominated in foreign currency. Quote at the end

Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=6&accion=consultarCuadro&idCuadro=CF102&locale=es>

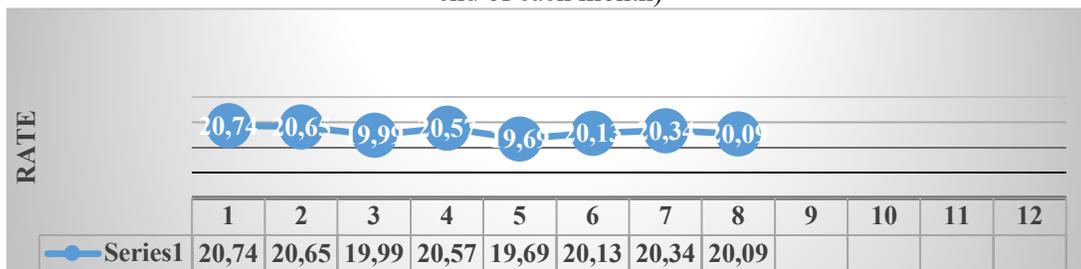
Graph 5. Exchange rate (National currency per US dollar, 2010-2021, FIX parity at the end of each year)



Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=6&accion=consultarCuadro&idCuadro=CF102&locale=es>

Graph 6. Exchange rate (National currency per US dollar, January-August 2022, FIX parity at the end of each month)



Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=6&accion=consultarCuadro&idCuadro=CF102&locale=es>

4. EQUILIBRIUM INTERBANK INTEREST RATE (TIIE)

On March 23, 1995, the Bank of Mexico, to establish an interbank interest rate that better reflects market conditions, released the Interbank Equilibrium Interest Rate through the Official Gazette of the Federation.

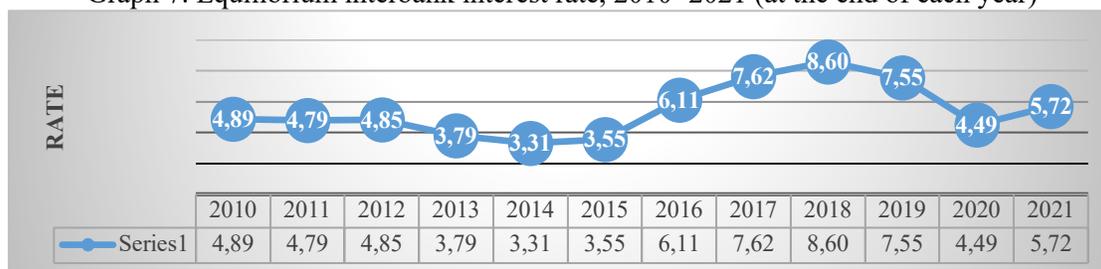
Table 4. Equilibrium interbank interest rate (28-day quote)

Periodo	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Enero	4.91	4.86	4.79	4.84	3.78	3.29	3.56	6.15	7.66	8.59	7.50	4.47	5.72
Febrero	4.92	4.84	4.78	4.80	3.79	3.29	4.05	6.61	7.83	8.54	7.29	4.36	6.02
Marzo	4.92	4.84	4.77	4.35	3.81	3.30	4.07	6.68	7.85	8.51	6.74	4.28	6.33
Abril	4.94	4.85	4.75	4.33	3.80	3.30	4.07	6.89	7.85	8.50	6.25	4.28	6.73
Mayo	4.94	4.85	4.76	4.30	3.79	3.30	4.10	7.15	7.86	8.51	5.74	4.29	7.01
Junio	4.94	4.85	4.77	4.31	3.31	3.30	4.11	7.36	8.10	8.49	5.28	4.32	7.42
Julio	4.92	4.82	4.78	4.32	3.31	3.31	4.59	7.38	8.11	8.47	5.19	4.52	8.04
Agosto	4.90	4.81	4.79	4.30	3.30	3.33	4.60	7.38	8.10	8.26	4.76	4.65	8.50
Sep.	4.90	4.78	4.81	4.03	3.29	3.33	4.67	7.38	8.12	8.04	4.55	4.75	
Octubre	4.87	4.79	4.83	3.78	3.28	3.30	5.11	7.38	8.15	7.97	4.51	4.98	
Noviembre	4.87	4.80	4.85	3.80	3.31	3.32	5.57	7.39	8.34	7.78	4.48	5.13	
Diciembre	4.89	4.79	4.85	3.79	3.31	3.55	6.11	7.62	8.60	7.55	4.49	5.72	

Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=18&accion=consultarCuadro&idCuadro=CF101&locale=es>

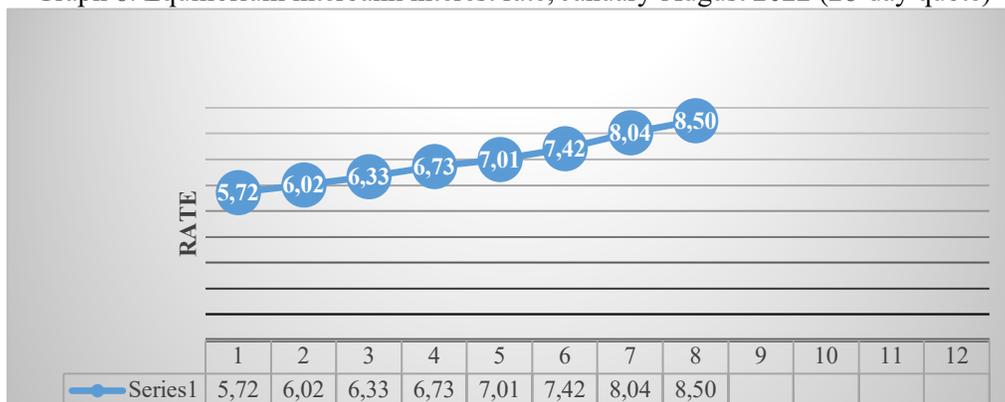
Graph 7. Equilibrium interbank interest rate, 2010- 2021 (at the end of each year)



Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=18&accion=consultarCuadro&idCuadro=CF101&locale=es>

Graph 8. Equilibrium interbank interest rate, January-August 2022 (28-day quote)



Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=18&accion=consultarCuadro&idCuadro=CF101&locale=es>

5. CETES RATE OF RETURN

Table 5. CETES rate of return (28-day)

Periodo	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Enero	4.49	4.14	4.27	4.15	3.14	2.67	3.08	5.83	7.25	7.95	7.04	4.22	5.50
Febrero	4.49	4.04	4.32	4.19	3.16	2.81	3.36	6.06	7.40	7.93	6.91	4.02	5.94
Marzo	4.45	4.27	4.24	3.98	3.17	3.04	3.80	6.32	7.47	8.02	6.59	4.08	6.52
Abril	4.44	4.28	4.29	3.82	3.23	2.97	3.74	6.50	7.46	7.78	5.84	4.06	6.68
Mayo	4.52	4.31	4.39	3.72	3.28	2.98	3.81	6.56	7.51	8.07	5.38	4.07	6.90
Junio	4.59	4.37	4.34	3.78	3.02	2.96	3.81	6.82	7.64	8.18	4.85	4.03	7.56
Julio	4.60	4.14	4.15	3.85	2.83	2.99	4.21	6.99	7.73	8.15	4.63	4.35	8.05
Agosto	4.52	4.05	4.13	3.84	2.77	3.04	4.24	6.94	7.73	7.87	4.50	4.49	8.35
Sep.	4.43	4.23	4.17	3.64	2.83	3.10	4.28	6.99	7.69	7.61	4.25	4.69	
Oct.	4.03	4.36	4.21	3.39	2.90	3.02	4.69	7.03	7.69	7.62	4.22	4.93	
Nov.	3.97	4.35	4.23	3.39	2.85	3.02	5.15	7.02	7.83	7.46	4.28	5.05	
Dic.	4.30	4.34	4.05	3.29	2.81	3.14	5.61	7.17	8.02	7.25	4.24	5.49	

Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=22&accion=consultarCuadro&idCuadro=CF107&locale=es>

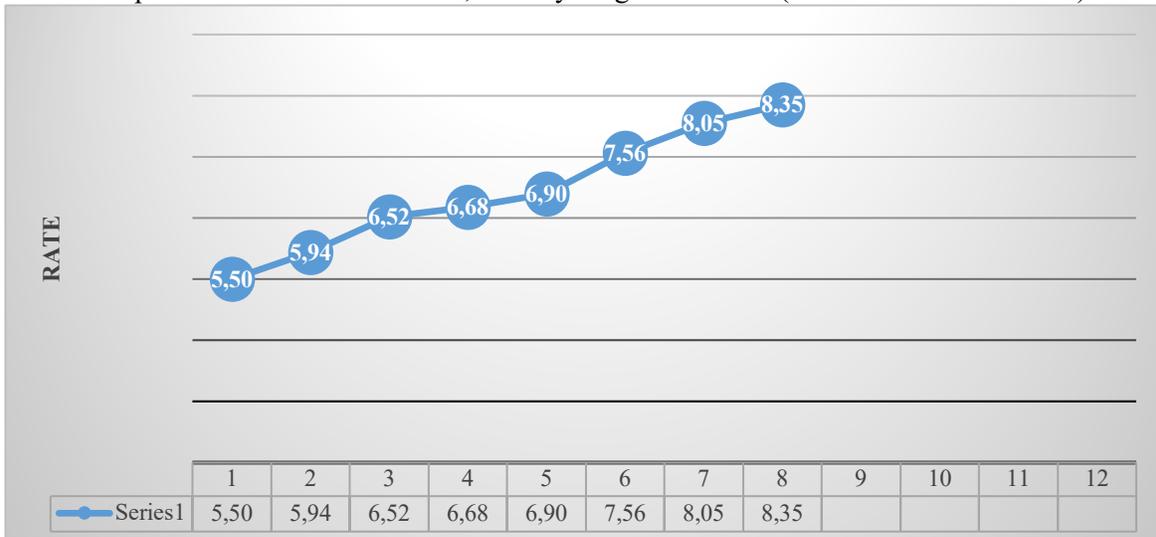
Graph 9. CETES rate of return 2010- 2021 (at the end of each year)



Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=22&accion=consultarCuadro&idCuadro=CF107&locale=es>

Graph 10. CETES rate of return, January-August del 2022 (at the end of each month)



Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=22&accion=consultarCuadro&idCuadro=CF107&locale=es>

6. INVESTMENT UNITS (UDIS)

The UDI is a unit of account of constant real value to denominate credit titles. It does not apply to checks, commercial contracts, or other acts of commerce.

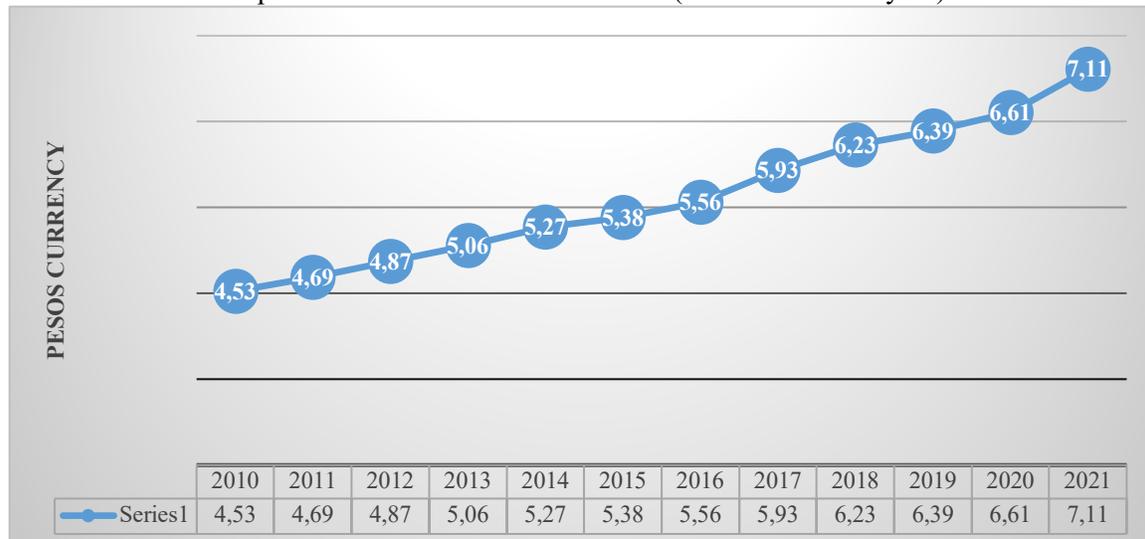
Table 6. Investment units (value concerning pesos)

Periodo	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Enero	4.37	4.56	4.73	4.89	5.10	5.29	5.41	5.62	5.97	6.25	6.44	6.64	7.12
Febrero	4.41	4.57	4.75	4.92	5.13	5.29	5.43	5.69	6.00	6.25	6.46	6.70	7.18
Marzo	4.44	4.59	4.75	4.94	5.15	5.30	5.44	5.71	6.02	6.26	6.49	6.75	7.24
Abril	4.46	4.59	4.75	4.97	5.15	5.32	5.45	5.75	6.03	6.28	6.43	6.79	7.31
Mayo	4.43	4.58	4.71	4.96	5.13	5.29	5.42	5.75	6.01	6.27	6.42	6.81	7.33
Junio	4.41	4.55	4.74	4.95	5.13	5.28	5.42	5.75	6.01	6.26	6.44	6.83	7.36
Julio	4.42	4.57	4.77	4.95	5.14	5.28	5.42	5.76	6.04	6.27	6.49	6.87	7.43
Agosto	4.43	4.58	4.78	4.95	5.16	5.29	5.44	5.79	6.07	6.29	6.52	6.90	7.47
Sep.	4.44	4.59	4.80	4.97	5.18	5.31	5.45	5.82	6.11	6.29	6.55	6.92	
Oct.	4.47	4.61	4.83	4.99	5.20	5.33	5.49	5.84	6.13	6.31	6.57	6.97	
Nov.	4.50	4.64	4.85	5.02	5.23	5.36	5.53	5.89	6.17	6.35	6.60	7.04	
Dic.	4.53	4.69	4.87	5.06	5.27	5.38	5.56	5.93	6.23	6.39	6.61	7.11	

Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarCuadro&idCuadro=CP150&locale=es>

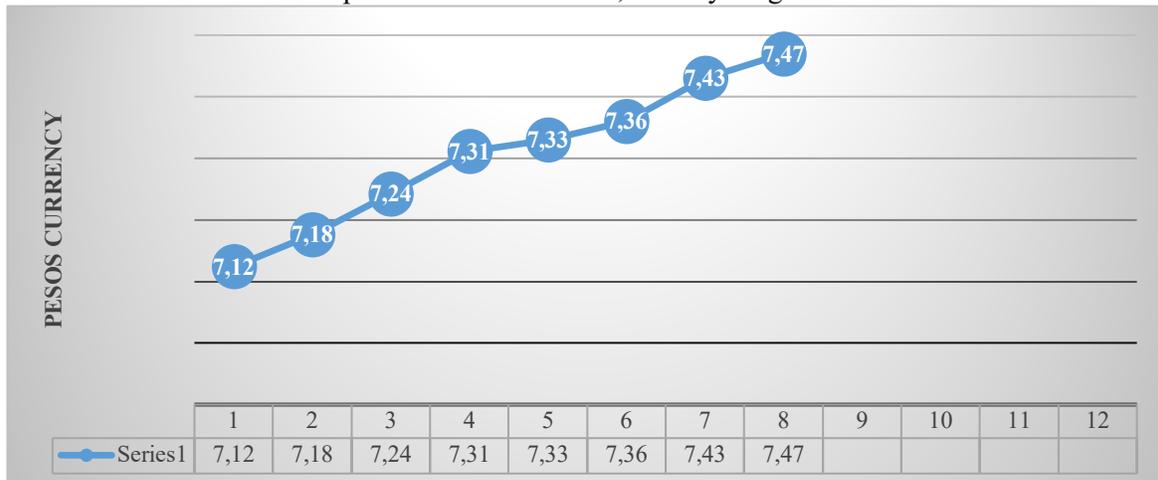
Graph 11. Investment units 2010-2021 (At the end of the year)



Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarCuadro&idCuadro=CP150&locale=es>

Graph 12. Investment units, January-August 2022



Source: Own elaboration (BANXICO, 2022).

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarCuadro&idCuadro=CP150&locale=es>

METHODS AND MODELS USED IN SENSITIVITY ANALYSIS

The Iman Researchers, (1990); and Helton (1993), in addition to promoting the use of global sensitivity as well, have tested robust methods based on Monte Carlo regression, correlation analysis and the use of scatter diagrams. Standardized output coefficients (SRC), measures of correlation (Pearson), and partial correlation coefficients (PCC) have also been used successfully in sensitivity models.

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