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Efficiency of public expenditure in higher education at Universidad Surcolombiana, 2016-2020

Eficiencia del Gasto Público en la Educación Superior de la Universidad Surcolombiana, 2016-2020

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Abstract

This research article presents an analysis of the efficiency of public expenditure in higher education at Universidad Surcolombiana during the period 2016-2020. The study was conducted through an analysis of management indicators applied by the higher education institution, using an efficiency measurement scale based on the appropriated and executed resources from the general budget. These resources are allocated between operating expenses and investment expenses, with the latter directed towards covering projects, programs, and policies within each of the subsystems (Training, Research, Social Projection, University Welfare, and Administration) included in the Plan de Desarrollo Institutional 2015-2024. Furthermore, the operations werecompared with management indicator formulas developed, for both national allocation sources and the university's own revenue sources, as mechanisms to achieve fiscal balance in investments while fulfilling the institutional mission. Subsequently, a quantitative approach wasadopted, using a deductive analytical and descriptive method appropriate for this type of study. Document review techniques and central tendency measurement techniques, with the aid of Excel, were employed for the respective operational analyses. Finally, the study concluded that the analysis developed on the efficiency indicator of public expenditure in higher education at Universidad Surcolombiana during the period 2016-2020 achieved positive efficiency due to the good balance of its public finances, the growth of installed capacity, the acquisition of laboratories, the increase in intellectual production by faculty and students, and the strengthening of university welfare.

Keywords: Efficiency in education; Public expenditure; Higher education.

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Resumen

El presente artículo de investigación da cuenta del análisis de la eficiencia del gasto público en la Educación Superior de la Universidad Surcolombiana (USCO) durante el período 2016-2020. Este estudio se llevó a cabo mediante un análisis de indicadores de gestión aplicados por la Institución de Educación Superior, a través de una escala de medición de la eficiencia basada en los recursos apropiados y ejecutados del presupuesto general. Estos recursos se distribuyen entre gastos de funcionamiento y gastos de inversión, siendo estos últimos dirigidos al cubrimiento de los proyectos, programas y políticas que se encuentran en cada uno de los subsistemas (Formación, Investigación, Proyección Social, Bienestar Universitario y Administrativo) incluidos en el Plan de Desarrollo Institucional 2015-2024. Además, estas operaciones se compararon con fórmulas de indicadores de gestión, tanto para la fuente de asignación del orden nacional como por la fuente de rentas propias de la universidad, como mecanismos para lograr el equilibrio fiscal de las inversiones que se realizan, cumpliendo con la misión institucional. Posteriormente, se adoptó un enfoque cuantitativo, bajo el método deductivo de tipo analítico y descriptivo, propio para este tipo de estudios. Se emplearon técnicas de revisión documental y técnicas de medida de tendencia central con ayuda de Excel para el desarrollo de los respectivos análisis operacionales. Finalmente, el estudio concluyó que el análisis desarrollado sobre el indicador de eficiencia del gasto público en la Educación Superior de la USCO durante el período 2016-2020 logró una eficiencia positiva debido al buen equilibrio de sus finanzas públicas, el crecimiento de la capacidad instalada, la adquisición de laboratorios, el aumento de la producción intelectual en docentes y estudiantes, y el fortalecimiento del bienestar universitario.

Palabras Clave: Eficiencia en la educación; Gasto público; Educación superior.

1. Introduction

This research examines the efficiency of public expenditure in higher education at the Universidad Surcolombiana (USCO) during the period 2016-2020. The study focuses on the five core subsystems: Academic Programs, Research, Outreach, Student Welfare, and Administration. These subsystems align with the Plan de Desarrollo Institucional 2015-2024 (PDI 2015-2024) and have been implemented across all USCO campuses (Neiva, Garzón, Pitalito, and La Plata) in the Huila Department.

The theoretical framework is grounded in General Systems Theory, as proposed by Herbert (1972) and Ramírez (2002). This perspective views the USCO as a complex organization influenced by both internal and external factors. The PDI 2015-2024, which underpins this research, adopts a systems approach, emphasizing the interconnectedness of the university's various components.

The study employs a quantitative, analytical, and descriptive research design. Document analysis was used to assess the efficiency of public expenditure by examining the alignment between resource allocation and institutional objectives as outlined in the PDI 2015-2024 and related documents. The research findings contribute to the field by providing insights into the effective use of Public Funds in (FP), with implications for accountability, reporting, and accreditation processes at USCO and other institutions

2. Methodology

This research adopts a non-experimental paradigm, given that the variables under study –the budget allocated to USCO and the efficiency of indicators related to public expenditure– cannot be manipulated. Data was extracted directly from the educational institution's departments and from national government data platforms such as the Minsterio de Educación Nacional (MEN), the Ministry of Finance, the National Higher Education Information System, the Higher Education Quality Assurance Support System, the Higher Education Dropout Prevention System, the State University System, and the Higher Education Performance Indicator Model.

According to Zamora (2012), non-experimental research is conducted without manipulating variables, observing phenomena as they occur naturally in order to conduct the corresponding analyses. Thus, direct control over the variables is not exercised. This study employed a quantitative approach, specifically a descriptive and analytical design. This allowed for an examination of the structure of the budget allocated to higher education at USCO and an analysis of expenditure efficiency, as well as the direct effects of the problem and its root causes. Comparisons were made

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between the variables of public expenditure, higher education, and expenditure efficiency to address the research objectives.

Statistical information was used to analyze and describe the data and characteristics of the study object. Central tendency measures were employed to investigate the traits, qualities, or attributes of the studied population. Additionally, the method used by USCO, based on the efficiency measurement scale outlined in the PDI 2015-2024, was utilized. This method focuses on investment expenditures and uses a formula that divides allocated resources by executed resources multiplied by 100 for each project.

Finally, this information was compared with management indicator formulas developed and applied by Rodríguez and González (2014) for both national allocation sources and the university's own income sources. These formulas serve as mechanisms for achieving fiscal balance in investments and fulfilling the institutional mission.

3. Analysis

To assess the efficiency of public spending in higher education at the USCO between 2016 and 2020, this study references the work of Pinto and Cuadras (1992) and Mora *et al.* (1993). These authors posit a relationship between the economic and educational spheres, defining two key components: External Efficiency (EE) and Internal Efficiency (IE).

EE refers to maximizing the outcomes of public higher education for citizens, essentially measuring the ratio of costs to benefits in terms of social return on investment. IE, on the other hand, focuses on the relationship between inputs and outputs within a university, aiming to produce desired outcomes at the lowest possible cost.

In other words, EE evaluates the extent to which higher education institutions achieve their societal objectives, while IE assesses the efficiency of internal processes. Mora *et al.* (1993) argues that Decision-Making Units (DMUs) in ES should focus on achieving outputs that align with societal goals, rather than solely on the means by which these goals areachieved.

According to the theoretical framework presented in Figure 1 on efficiency, it can be emphasized that allocating financial resources to ES is essential. This is because it allows for accessibility and program completion for students enrolled in the respective Institución de Educación Superior IES. This stems from the need for professional training and the acquisition of skills and abilities to be competitive in the labor market. Ultimately, the education received by citizens empowers a country with higher productivity indicators, economic development generation, and increased impact and competitiveness in business production. The dynamics of a country's productive and economic sectors are positively affected as well.

Moreover, when referring to Public Spending (PS), as Mueller (2016) points out, citizens should be able to access higher education. Therefore, it is the state's responsibility to guarantee funding, as stipulated in the Political Constitution of 1991 and Law 115 of 1994, promoting and incentivizing quality education. Additionally, Mueller indicates that public spending directed towards IES is essential to ensure that the entire population has access to higher education and that, consequently, these institutions should be funded with resources allocated to meet their internal needs, as established in Law 30 of 1992.

Similarly, Patiño (2008) quoting a Smith (1776) emphasizes the state's prominent role in intervening in the economy, market, and households. He argues that the state should guarantee all necessary goods and services. This is because the state is responsible for resolving the various problems and failures of the market and the allocation of resources to address and correct these situations, ultimately improving a country's economic dynamics.

Similarly, Jahan *et al.* (2014) argue that market freedom alone, based on its theoretical foundations, does not guarantee the aspects necessary to achieve citizen well-being. Therefore, the state is responsible for this fiscal function, which involves government intervention through its codes as coercive elements. In this way, recognition and legitimacy are achieved through administrative acts for the payment

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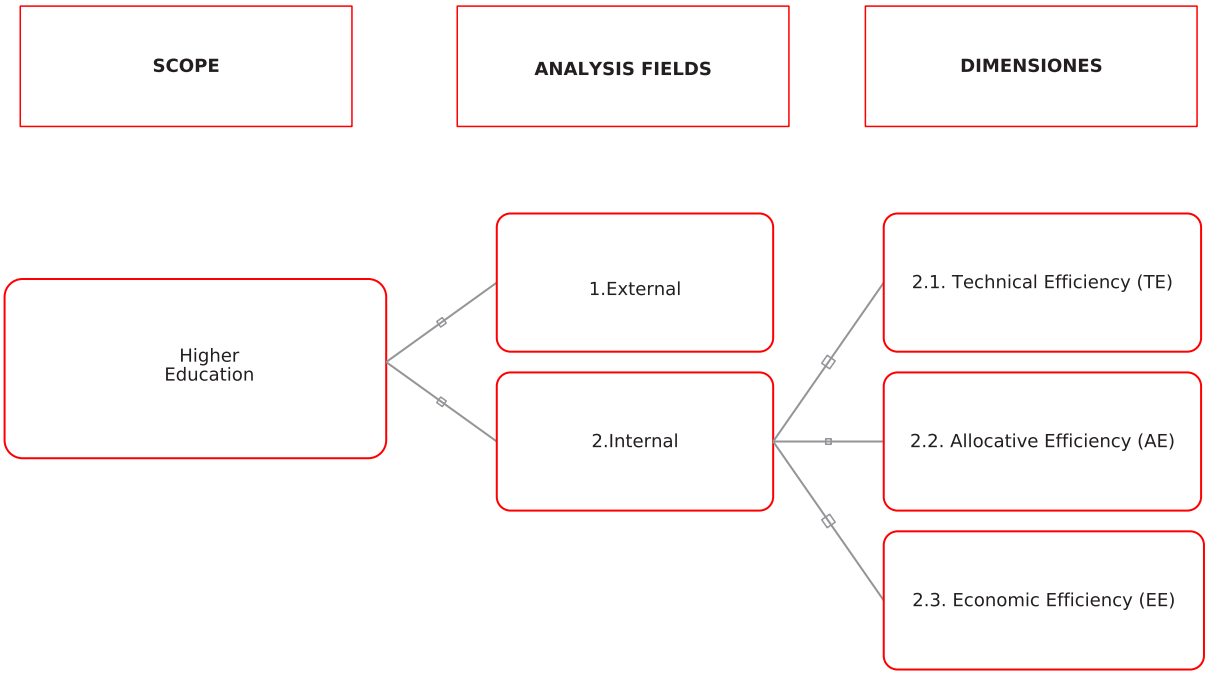
Figure 1. Efficiency classificatio



Source: Authors' own elaboration based on data from the Farell (1957).

of taxes and the respective budgetary allocations that are directed towards Public Policy (PP) and GP. This leads to a balanced social redistribution of appropriations and taxes, taking into account the guidelines of the executive branch supported by a government plan, which is equivalent to a development plan determined by popular vote for a period of 4 years. These resources are then distributed by items necessary for the improvement of the health, education, sports, housing, and Public Services (PS) sectors, among other sectors contemplated in the development plan.

On the other hand, Villón (2020) points out that, according to neoliberal theory, GP should be distributed in a budgetary proportion that is autonomous from specific budgetary allocations. In this way, the state executes, and the symbiosis translates into the sphere of production, as in the way appropriations are distributed. Thus, government members issue this public obligation, with the purpose of financing the privatizing role of the activities carried out by companies, hence the importance of efficiency or inefficiency.

Quesada (2020) emphasizes the functionality of GP as the total sum of expenditures executed by the government. It is described as the set of financial resources transferred by the state, whose purpose is to guarantee the rights of citizens. These rights are processed through the fulfillment of needs achieved in the provision of Public Goods (PG) and SS to the citizenry. This includes areas such as health, education, defense, roads, housing, PG, and other public works.

Consequently, the State, as a fundamental institution and guarantor of governmental legitimacy, provides a wide range of PG) and SS, ranging from national security to education, justice, and other fundamental rights. Historically, the debate over the State's role in providing these services has oscillated between welfare state models and more neoliberal approaches. While some SS, such as health and education services, may be complemented or even partially provided by the private sector, others, like national defense, justice administration, and market regulation, are exclusive functions of the State. This complex interplay between the public and private sectors presents challenges in terms of efficiency and equity and requires careful consideration of the interests at stake. The need to balance

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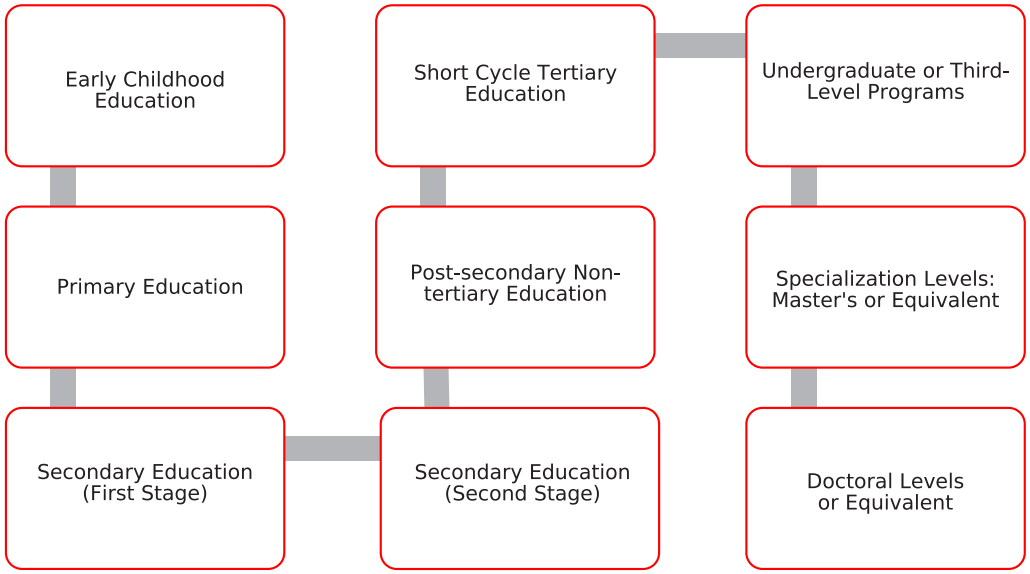
Figure 2. Education levels



Source: This classification is adapted from the UNESCO (2018).

efficiency, equity, and sustainability in the provision of PG and SS is a pressing issue for many governments today, especially in light of fiscal constraints and increasing demands for public services.

Public goods are characterized by their non-rival consumption, meaning that their consumption by one individual does not diminish the quantity available for consumption by others. Conversely, goods whose consumption is rival allow for exclusion and can negatively impact access to PG (Stiglitz, 2000).

Moreover, neoliberal ideology emerged during the 20th century as a response to the culmination of post-war tensions or the Cold War between 1947 and 1953, and the expansion of large-scale economic globalization, which deepened across various economies worldwide.

Finally, another significant finding regarding the development model applied in Latin America was the reliance on resource rents from the subsoil, coupled with excessive external debt. This led to budgetary imbalances and high inflation among states, ultimately fragmenting their economies.

From the foregoing, and in relation to ES, it can be inferred that royalties constitute state property, as they generate substantial benefits for citizens who, due to various circumstances, are unable to access them. This is particularly relevant in the case of higher education, as it highlights the importance of a public good that a nation provides.

In this vein, when discussing education, it becomes evident that societal aspirations increasingly mirror the exclusive privileges of social elites. Public policies for ES should prioritize the development of well-rounded individuals who possess ethical, solidarity-based, autonomous, political, literary, and critical qualities that enable them to understand and engage with the complexities of society Consejo Nacional de Educación Superior (CNES).

The Departamento Administrativo Nacional de Estadística (DANE) (2011), has highlighted the importance of an education system in Latin America and the Caribbean and has established guidelines, parameters, and criteria aimed at eliminating barriers of marginalization, exclusion, inequality, and illiteracy. This, in turn, has promoted actions, levels, and commitments focused on ensuring that learners can access all levels of education, as illustrated in Figure 2. This figure outlines the various stages that individuals must

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progress through throughout their lives to acquire a comprehensive education.

In the Colombian context, Article 67 of the Constitución Política de 1991 establishes education as a constitutional right for all citizens, thereby making it a public service whose fundamental purpose is to fulfill a social function. It aims to provide accessibility to knowledge, science, art, technology, and other goods, services, principles, and values that promote cultural development.

Given the foregoing, the Colombian government, as a legally and politically organized institution, is the primary entity responsible for administering and financing the education system. It must fulfill essential objectives, starting with the design of PP that are grounded in the materialization, strengthening, and elimination of all barriers such as discrimination, exclusion, illiteracy, and social inequality. Thus, citizens must be mindful when selecting their local, regional, and national leaders to ensure that they implement, within their development plans and public policies, programs and projects aimed at achieving education at all levels, as promoted by UNESCO (1998). This entails eliminating all barriers that hinder literacy and promoting efficient and effective education, particularly in terms of the allocation of public resources to education and all educational institutions, including higher education.

Similarly, Ley 115 the 1993, in its first article, stipulates that education is a precept that must be provided on a continuous basis, both individually and collectively, promoting cultural and social principles. This law enables a holistic approach to individuals, who are also endowed with dignity and whose rights and essential duties as learners are upheld.

Moreover, the framework law, as outlined in Article 1 of Ley 30 the 1992, states that higher education is a principle that proposes that education and teaching must be provided to all learners without any form of discrimination. Consequently, all guarantees must be in place for the development of individuals' abilities through comprehensive mechanisms that contribute to individual and collective well-being among students.

Education in Colombia is both a goal and a means to address the historical demands of various social actors in the country. This public service, while being a universal and essential right, has become a privilege that not all Colombians can access. This is due to various factors and variables, ranging from the admissions process to the different limitations on access, such as entrance exams and institutional regulations, notably the ICFES or SABER 11 tests. These factors render millions of Colombians who aspire to study invisible, as they are unable to do so due to the aforementioned barriers.

Similarly, it is important to highlight that Law 30 of 1992 as the framework law established ES in Colombia for education, organizing it as a SS. As such, it is grounded in the principles of university autonomy and internal regulations, fulfilling the mission of promoting and fostering public professional higher education. This type of higher education is classified as follows:

- **ITPs (Technical Professional Institutes):** These are technical and vocational-professional institutions authorized by relevant regulations to provide skills-based training at the instrumental, operational, and technical levels. Depending on the field of study, this training can lead to technical-professional specializations.
- **ITs (Technological Institutes):** These institutions are focused on fostering skills-based training in specific occupational disciplines. Their legal mission is to provide education that develops competencies for various occupations. Depending on the level of training, students can attain technical-professional specializations.
- **UITS (University Institutes or Technological Schools):** Authorized to provide occupational-oriented education, these institutions offer diverse technical-professional programs in liberal arts and other fields. Depending on the area of study, they may also offer technical-professional specializations.
- **PPUs (Public and Private Universities):** These are IES regulated by Law 30 of 1992 and the Political Constitution of 1991, which establish these entities as autonomous

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bodies. Furthermore, these institutions enjoy broad academic, administrative, and financial autonomy, as outlined in Law 30 of 1992.

4. Discussion and Results

4.1. Conceptualization of the Efficiency Indicator, according to the Plan de Desarrollo Institutional (PDI, 2015-2024)

Initially, the efficiency of the to GP in the superior education at the USCO is calculated based on formulas and procedures involving the variable of costs per unit obtained versus determined or selected unit costs (Tables 1, 2).

Table 1. This calculation yields a result expressed in two factors

Efficiency Level (%)	Performance Range
Very Low (VL)	0-20
Low (L)	21-40
Medium (M)	41-60
High (H)	61-80
Very High (VH)	> 81

Source: Adapted from the (PDI, 2015-2024).

Table 2. Budget Efficiency Calculation Formula: Subsystem Analysis within the USCO (PDI, 2015-2024) investment resources

Formula for Measuring Efficiency
Efficiency = (Resources Executed / Resources Allocated) * 100

Source: Adapted from the (PDI, 2015-2024).

To constrain the attainment or achievement of a specific value; that is, within the imperative understanding and application of criteria for the appropriate use of economic or financial resources.

Likewise, databases indicated by the MEN or the Higher Education Institution should be used. Alternatively, other specified databases may be used. This allows for an internal review within the entity, institution, or organization, in this case the USCO, to test or explore the fulfillment of the PDI 2015-2024 advancements regarding goals, achieved results, and generated products in each of the subsystems that the USCO has been implementing in the studied years. In this way, it is determined whether the efficiency indicator is being met or not, according to the respective sector or DMU variable, providing an explanation in its respective analyses or comparisons PDI 2015-2024.

This indicator is specifically designed to evaluate the efficiency of the USCO PP investments, particularly those related to the GI. Building upon the research objectives outlined in this paper, we propose measuring the PS efficiency indicator within the USCO's ES during the 2016-2020 period. To accomplish this, we have utilized management indicator formulas previously developed and applied by Rodríguez Arias and González Lara (2014) in their undergraduate thesis to assess efficiency in operating expense resources.

5. Total Efficiency Scores by Subsystem: A Case Study of the Universidad Surcolombiana (2016-2020)

Graph 1 illustrates the cumulative efficiency outcomes of the USCO's five subsystems from 2016 to 2020. The efficiency indicator exhibits a favorable trajectory, especially considering the robust allocation of resources for social investment. While most subsystems have maintained efficiency levels within a medium to high range, the wellbeing subsystem consistently demonstrates a high level of efficiency, suggesting that public expenditure directed towards this subsystem has been particularly effective.

As shown in Table 3, all subsystems exhibited a positive trend in efficiency from 2016 to 2019. However, the onset of the COVID-19 pandemic in 2020 necessitated significant budget reallocations and adjustments to the PDI 2015-2024, leading to a decline in the efficiency indicator.

To evaluate the performance of its five subsystems against the goals outlined in the PDI 2015-2024, USCO employs aPS Efficiency Scale. This scale compares budgeted and actual expenditures to determine the extent to which the institution is achieving its efficiency and efficacy objectives. The

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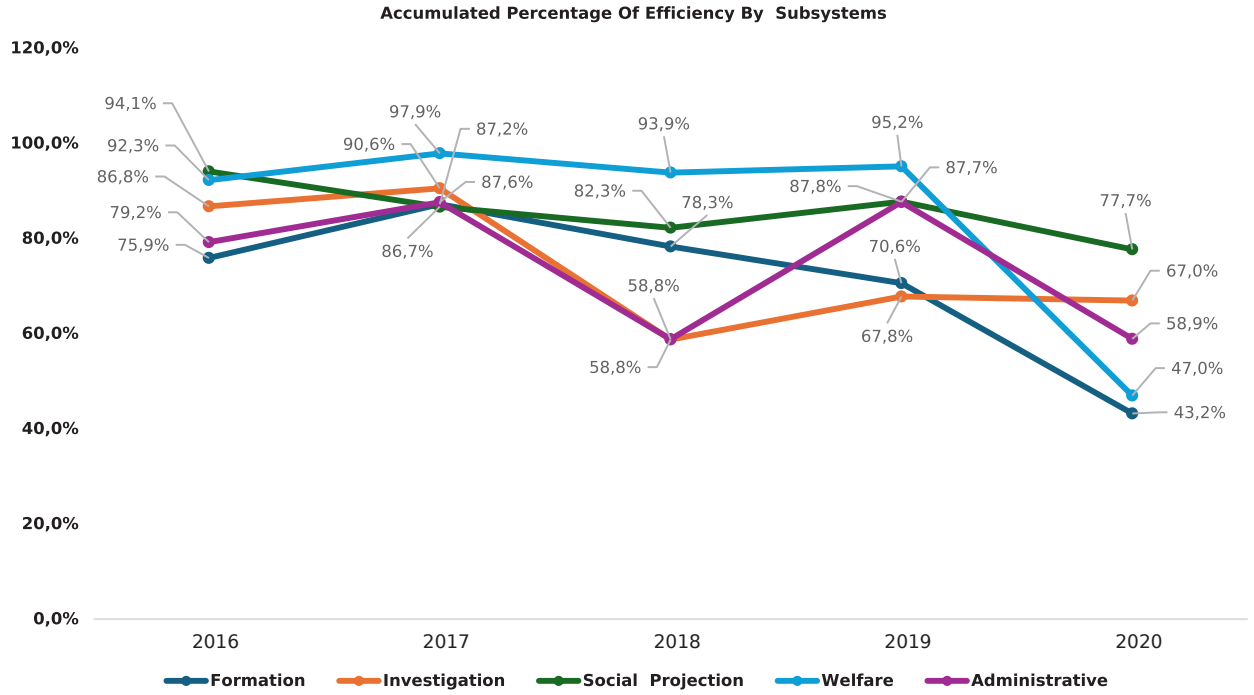
Graph 1. Cumulative efficiency scores for the five USCO, subsystems over time 2016-2020



Source: Authors' own elaboration.

Table 3. Subsystems' efficiency levels at the Universidad Surcolombiana: a 5-year analysis (2016-2020)

Subsystem/Fiscal Years	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)
Training	75,9	87,2	78,3	70,6%	43,2
Research	86,8	90,6	58,8	67,8%	67,0
Social Outreach	94,1	86,7	82,3	87,8%	77,7
Welfare	92,3	97,9	93,9	95,2%	47,0
Administrative	79,2	87,6	58,8	87,7%	58,9

Source: Authors' own elaboration.

Table 4. Growth rate of efficiency indicator

Fiscal Year	2016	2017	2018	2019	2020
Subsystems	TC				
Training	-	15%	-10%	-10%	-39%
Research	-	4%	-35%	15%	-1%
Social Outreach	-	-8%	-5%	7%	-11%
Welfare	-	6%	-4%	1%	-51%
Administrative	-	11%	-33%	49%	-33%

Source: Authors' own elaboration.

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SGC and OAC utilize this metric for quality assurance purposes (Table 4).

6. The cumulative results, growth rates, and differences in management indicators related to operating resources over a five-year period

Furthermore, the study analyzed investment expenditures allocated to both operations and investments.

As shown in Table 5, the efficiency scale exhibited significant growth in 2017, parts of 2018, and 2019. However, 2016, parts of 2018, and particularly 2020, witnessed a decline, especially due to the COVID-19 pandemic, which disrupted the university's administrative, academic, and financial processes. Consequently, the alignment of indicators, programs, and projects within the PDI 2015-2024 was compromised, necessitating a subsequent update of goals and outcomes.

Furthermore, the analysis reveals the following percentage growth trends in efficiency: The training subsystem experienced growth of 15% between 2016 and 2017, followed by declines of 10% in both 2017-2018 and 2018-2019, and a significant drop of 39% in 2019-2020. Similarly, the research subsystem exhibited growth of 4% in 2016-2017, a substantial decline of 35% in 2017-2018, followed by a modest recovery of 15% in 2018-2019, and a slight decrease of 1% in 2019-2020. The social projection subsystem displayed a more erratic pattern, with declines in 2016-2017 and 2017-2018, followed by growth in 2018-2019, and a subsequent decline of 11% in 2019-2020. University welfare also experienced fluctuations, with growth in 2016-2017, followed by declines in subsequent years, culminating in a significant drop of 51% in 2019-2020. Finally, the administrative subsystem exhibited varying performance, with growth in 2016-2017, followed by a decline in 2017-2018, a substantial increase in 2018-2019, and a subsequent decline of 33% in 2019-2020.

This study was funded by the authors themselves. No external funding was received.

Table 5. Management indicators for measuring efficiency

Year	Financial resources per enrolled student	Administrative staff costs per student	Financial resources for full-time teachers	Intellectual production of teachers	Graduation Rate (TG)	Teachers by undergraduate program	Indicator of socioeconomic support for students	Indicator and undergraduate enrollment
2016	4.658.372	1.008.806	115.409.382	11,26	5,74	56	12.930.463	12
2017	4.926.258	1.053.062	121.383.215	10,60	4,26	58	13.334.64	12
2018	5.263.690	1.167.847	123.691.582	22,78	5,87	62	16.230.369	12
2019	6.030.149	1.245.391	131.624.717	12,83	5,39	67	16.716.615	11
2020	6.148.298	1.341.526	139.183.136	21,92	4,34	58	6.309.132	11

Source: Authors' own elaboration.

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7. Conclusions

The analysis ofPS efficiency at USCO FP from 2016 to 2020 indicates a positive trend. University income demonstrated substantial growth, increasing from a 7% budgetary trend between central and self-generated investments in 2016 to an 11% annual growth in 2020. Additionally, installed capacity expanded from 77,871 m² in 2011-2016 to 104,351 m² in 2016-2020, representing a 25% increase. Furthermore, the university increased its enrollment rate, achieving an 11.47% growth during the analyzed period of 2016-2020, with 2,597 additional students enrolled compared to the previous period. Likewise, the educational aspect regarding faculty training improved significantly, with the number of PhD holders increasing from 45 in 2016 to 89 in 2020, representing a considerable growth of 98%. The number of faculty with a master's degree rose from 351 to 549, an increase of 56%. Additionally, the university saw an increase in the number of faculty with a specialization degree, rising from 367 to 381, a growth of 4%. Conversely, the number of faculty holding only an undergraduate degree decreased from 150 to 96, indicating a positive reduction of 36%.

This analysis demonstrates that the PP is the cornerstone of decision-making at USCO. The period from 2016 to 2020 is marked by strong fiscal performance and effective allocation of funds towards operational and social investments, as outlined in the PDI 2015-2024. This has ensured the institution's financial stability and provided the necessary resources to fulfill its mission.

As outlined in Table 6, seven key management indicators were employed to assess efficiency. These indicators are described as follows:

Firstly, Financial Resources per Undergraduate Student reveals a 32% growth rate from 2016 to 2020. This indicates that, on average, the university received an additional $1'489,926 pesos per undergraduate student during this period (Table 6).

Secondly, the Administrative Staff Expenses per Undergraduate Student indicates that the average expenditure on administrative personnel per undergraduate student increased from approximately 1

Table 6. management indicators for measuring efficiency

Year	Financial Resources per Undergraduate Student (IRFMP)	Administrative Staff Expenses per Undergraduate Student (IGAMP)	Financial Resources per Full-Time Equivalent Faculty (IRFDTCE)	Intellectual Production Level of Full-Time Faculty (NPIPP)	Graduation Rate (TG)	Full-Time Equivalent Faculty per Undergraduate Program (IDTCEPP)	Socioeconomic Support Indicator for Undergraduate Students per Undergraduate Student (IASEMP)	Full-Time Equivalent Faculty per Undergraduate Student (IMPDTCE)
2016	4.658.372	1.008.806	115.409.382	11,26	5,74	56	12.930.463	12
2017	4.926.258	1.053.062	121.383.215	10,60	4,26	58	13.334.64	12
2018	5.263.690	1.167.847	123.691.582	22,78	5,87	62	16.230.369	12
2019	6.030.149	1.245.391	131.624.717	12,83	5,39	67	16.716.615	11
2020	6.148.298	1.341.526	139.183.136	21,92	4,34	58	6.309.132	11

Source: Authors' own elaboration.

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million pesos in 2016 to 1.3 million pesos in 2020. This represents an average annual increase of 4% between 2016 and 2017 and 8% between 2019 and 2020.

Thirdly, the indicator for financial resources allocated to full-time equivalent professors shows that the university's expenditure increased from 115 million pesos in 2016 to approximately 139 million pesos in 2020. This represents a percentage increase of 5% between 2016 and 2017 and 6% between 2019 and 2020.

Fourthly, the indicator of faculty intellectual output shows a significant increase from 11.3% in 2016 to 21.9% in 2020, representing a 95% growth rate in publications such as scientific articles, books, and book chapters.

Fifthly, the Graduation Rate Indicator shows a 24% decrease in the number of students who did not complete their undergraduate programs between 2016 and 2020.

Sixthly, the indicator of full-time equivalent faculty per undergraduate program shows a slight increase from 57 professors in 2016 to 59 professors in 2020.

Seventhly, the Indicator of Socioeconomic Support per undergraduate student shows that USCO experienced a significant increase in efficiency from 2016 to 2018, with a 3% variation in 2016-2017 and a 22% increase in 2017-2018. However, this trend reversed in 2018-2019 with a 3% decrease, followed by a substantial 51% decline in 2019-2020.

8. Conflict of interest

The authors declare no conflict of interest.

9. Source of financing

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