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Accessibility Strategies to Information to Strengthen the Quality of Service of a University

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Abstract

The modernization of governmental systems through digitization is a matter of utmost importance today. This shift towards digital aims to update and improve the quality of services they provide to citizens. Therefore, this research has the general objective of proposing accessibility strategies to information to strengthen the quality of service at the UEA in Ecuador, 2023. Methodologically, it is framed in a positivist paradigm, quantitative approach, with a non-experimental design, a descriptive cross-sectional design was used, which involved measuring the variables once and analyzing the results at a specific time. In this context, the study population consisted of 1,343 undergraduate students from the Faculty of Life Sciences at the UEA, including the careers of Environmental Engineering, Tourism, and Biology. The sample calculation yielded a total of 371 students. The distribution of these students is as follows: 175 students of Environmental Engineering, of which 75 are men and 100 are women; 73 students of Tourism, of which 20 are men and 53 are women; and 123 students of Biology, of which 44 are men and 79 are women. In total, the sample includes 139 men and 232 women. Demonstrating a positive correlation between the implementation of strategies to improve accessibility to information and the quality of service at the UEA. By strengthening these strategies, the response capacity to student requests is improved.

Keywords: *Strategy, accessibility, service, university.*

INTRODUCTION

At the global level, despite the implementation of strategies to maintain the functioning of government institutions, their impact varies among governments that have most of their processes organized and digitized. According to a report by the Inter-American Development Bank (IDB, 2021), based on a survey of 4,600 public officials from nine countries, 50% reported difficulties in carrying out their activities, which prevented them from attending to citizen procedures that could have been resolved if more information had been accessed.

The quality of service, assessed through accessibility to public information, is an issue addressed by international partnerships, and it is through the 2030 Agenda for Sustainable Development, goal 16, that an attempt is made to address the problem of the vulnerability of government data infrastructures (Martin, 2020). As proof of this, it is mentioned what was reported in the report of the United Nations Organization (UN, 2021) on the problems that countries had during the spread of the coronavirus to provide complete and

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functional data, that is, it was found that 62% of countries had an almost complete data registration system at 75%, while African countries were below 20%.

Many governments today, through the digitalization of their administrative processes, seek to address these needs, but the automation of actions has not spread evenly in recent years, as employees of public institutions must work enormously to ensure effective communication and provide a constant flow of information provided (ILO, 2020).

In Ecuador, the Service Quality Perception Index assesses how citizens value the performance of entities in providing a general public service. According to a survey of 9,016 households nationwide, this indicator scored 6.1 on a scale of 10 at the end of 2022 (INEC, 2023). In addition, the E-Government Development Index, which assesses the effectiveness of online government services, gave Ecuador a score of 0.6889 in 2022, ranking it 84th out of 193 globally, a drop compared to its 74th position in 2020 (UN, 2021).

Ecuadorian universities, by offering a service to the community, are subject to continuous evaluations of the quality, transparency, and effectiveness of the information they generate (Suárez & García, 2021). The Amazon State University (UEA), located in the Ecuadorian Amazon, is no exception to this task. Despite its financial, organic, academic and administrative autonomy, the UEA has the responsibility to be accountable for the actions of the 41 units that make up its organizational structure (UEA, 2022).

Focusing on the quality of service at UEA, the 4,071 undergraduate students who study one of the degrees offered by this institution do not have a good impression. When requesting or consulting information from their academic records through various means of communication, they do not meet their needs, which generates dissatisfaction with the data they obtain. Therefore, it is a priority to diagnose the procedures for the management of information in units such as the Academic Secretariat and the General Secretariat, especially if the guidelines established in the document management regulations are not met. This situation worries the authorities, as the effects will be mainly reflected in the accreditation processes, which include measuring the processing and delivery of public information.

Based on the above, the following general question arises: How do information accessibility strategies strengthen the quality of service in Ecuador's UEA in 2023? And the specific questions are: How do information accessibility strategies strengthen reliability in Ecuador's UEA in 2023?; How do information accessibility strategies strengthen responsiveness in Ecuador's UEA in 2023? and How do information accessibility strategies strengthen tangible elements in Ecuador's UEA in 2023?

The justification for this study is practical, since the design of strategies for information accessibility will have an impact on the management and delivery of data in the UEA and in other public entities that face the same problem. It is theoretical, as it allows us to know the scientific foundations of the study variables and the empirical evidence made by other authors related to this topic. And it is methodological, since it is part of the methodological framework, following disciplinary procedures of a study with a quantitative approach, non-experimental design, cross-sectional, descriptive, explanatory, propositional; the construction of instruments validated by experts; the collection of information for the sample population; the processing of the data and, finally, the elaboration of the proposal.

The main objective of this research is to propose information accessibility strategies to improve the quality of service at the Amazon State University (UEA) of Ecuador in 2023. Specific objectives include: diagnosing whether these strategies strengthen reliability in the UEA, determining whether they improve the responsiveness of the UEA, and establishing whether they reinforce tangible elements in the UEA.

As for the hypotheses, the general one states that information accessibility strategies significantly strengthen the quality of service in the UEA of Ecuador. Specific hypotheses sustain that these strategies significantly strengthen reliability, responsiveness, and tangible elements in Ecuador's UEA. The null hypothesis is that information accessibility strategies do not significantly strengthen the quality of service in the UEA of Ecuador.

METHODS

A paradigm is defined as a conceptual structure based on theoretical and methodological beliefs and assumptions, which is why a positivist paradigm was adopted for this research. This paradigm sustains the ability to reach absolute truths when solving problems and establishes a significant separation between the researcher and the object of study. This implies that, from an epistemological perspective, this model distinguishes between the researcher, considered a neutral subject, and the investigated reality, which must remain unaltered by the effects of the research object (Miranda & Ortiz, 2021).

On the other hand, the hypothetical deductive method was used, which according to López and Ramos (2021), is based on the formulation of an assumption based on principles, theories or empirical data. From this assumption, logical rules of reasoning are applied to test the veracity of the hypothesis. That is why, the research that was carried out is basic in nature, since its main objective was to explore the essential behaviors of the environment and the universe. This allowed the creation of models, laws, or theories that help understand their impacts on society (Castro et al., 2023).

A quantitative approach was used, since the phenomena studied required measurement and the use of statistics for the analysis and interpretation of the data. In addition, the conclusions were based on measurement systems that facilitated the collection, processing, and interpretation of the results through the hypothetical deductive method (Sánchez, 2019). Among the main research approaches, a non-experimental design was chosen. This design allowed the management of the variables without manipulations, using only the observation of the phenomena for subsequent examination (Sánchez, 2019).

On the other hand, it focused on a descriptive, explanatory and propositional cross-sectional design. It was descriptive because it detailed the specific characteristics and aspects of the population studied, which allowed the hypothesis to be raised (Arias & Rodríguez, 2021). It was explanatory because it sought an explanation for the phenomena investigated. Therefore, the hypothesis attempted to determine cause and effect elements of the events of interest to the observer (Galarza, 2020). The study was proactive, as it proposed the formulation of solutions based on reasonable grounds. These solutions were derived from the results of a diagnosis carried out around the object of study (Albarracín, 2021).

In this context, the study population consisted of 1,343 undergraduate students from the Faculty of Life Sciences of the UEA, including the careers of Environmental Engineering, Tourism and Biology. According to Quispe et al. (2020), the sample is the number of representative elements of a target population that are required. This number is determined by a calculation procedure that allows the study hypothesis to be confirmed or rejected depending on the appropriate sample size.

To calculate the sample, a specific formula for finite populations was used. Thus, of the 1,343 students who study the careers offered in the Faculty of Life Sciences, the sample calculation yielded a total of 371 students. The distribution of these students is as follows: 175 Environmental Engineering students, of which 75 are men and 100 are women; 73 Tourism students, of which 20 are men and 53 are women; and 123 biology students, of whom 44 are men and 79 are women. In total, the sample includes 139 men and 232 women.

RESULTS

Descriptive results:

Table 1. Relationship between information accessibility strategies and quality of service in UEA

Variable 1: Quality of service

		Low		Regular		Well		Total	
Variable 2: Information Accessibility Strategies	Low	25	6,7%	2	0,5%	0	0,0%	27	7,3%
	Regular	19	5,1%	118	31,8%	14	3,8%	151	40,7%
	Well	0	0,0%	46	12,4%	147	39,6%	193	52 %
Total		44	11,9%	166	44,7%	161	43,4%	371	100 %

Note. Results obtained from the application of the questionnaire to the students of the FCV of the UEA.

Figure 1. Information Accessibility and Service Quality Strategies

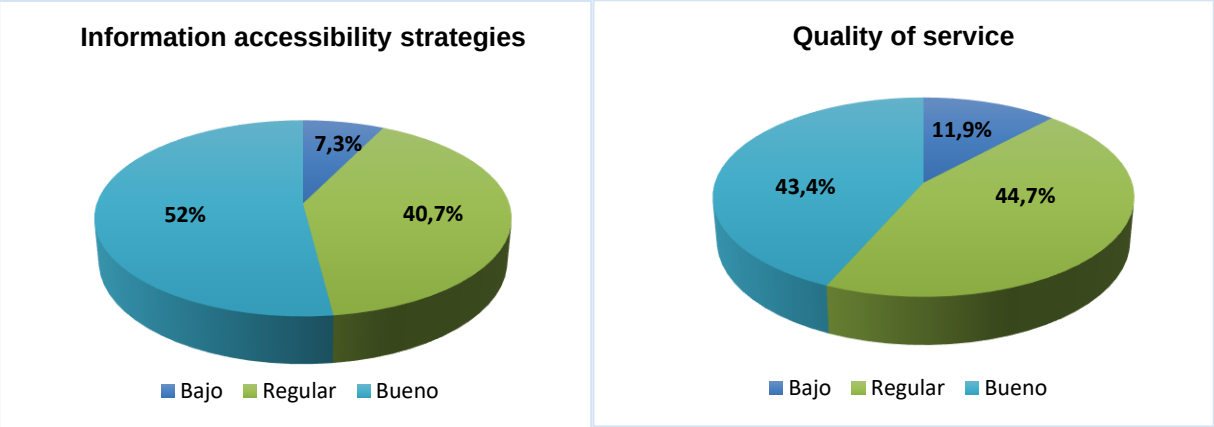


Table 1 shows that 52.0% of the students surveyed consider the information accessibility strategies implemented at UEA to be good, while 7.3% consider it to be low. On the other hand, quality of service tends to represent the highest percentage at the regular level at 44.7%.

Table 2. Information Accessibility Strategies and the Reliability Dimension in UEA

Dimension: Reliability

		Low		Regular		Well		Total	
Variable: Information Accessibility Strategies	Low	23	6,2%	4	1,1%	0	0,0%	27	7,3%
	Regular	27	7,3%	105	28,3%	19	5,1%	151	40,7%
	Well	2	0,5%	47	12,7%	144	38,8%	193	52 %
Total		52	14%	156	42 %	163	43,9%	371	100 %

Note. Results obtained from the application of the questionnaire applied to the students of the FCV of the UEA.

Figure 2. Reliability Dimension

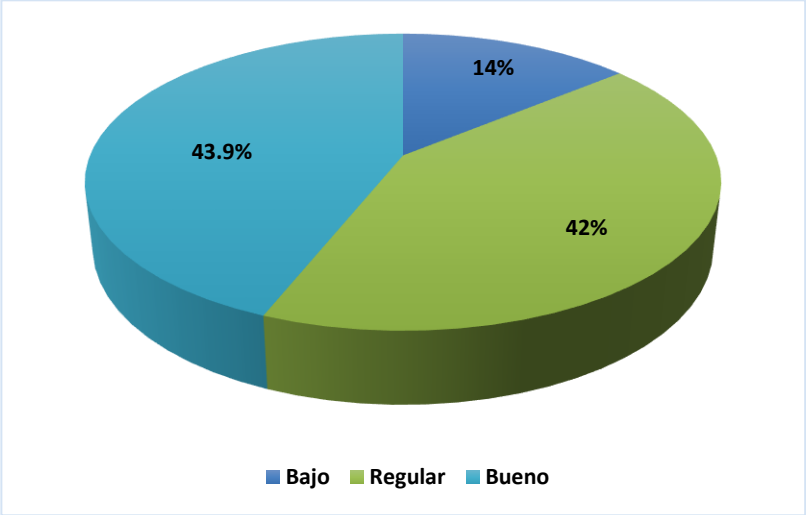


Table 2 shows that, of the total number of students surveyed, 43.9% rated the reliability as good, of which 38.8% also considered good information accessibility strategies.

Table 3. Information Accessibility Strategies and the Responsiveness Dimension in the UEA

Dimension: Responsiveness

		Low		Regular		Well		Total	
Variable: Information Accessibility Strategies	Low	25	6,7%	2	0,5%	0	0,0%	27	7,3%
	Regular	20	5,4%	110	29,6%	21	5,7%	151	40,7%
	Well	5	1,3%	51	13,7%	137	36,9%	193	52 %
Total		50	13,5%	163	43,9%	158	42,6%	371	100 %

Note. Results obtained from the application of the questionnaire to the students of the FCV of the UEA.

Figure 3. Responsiveness Dimension

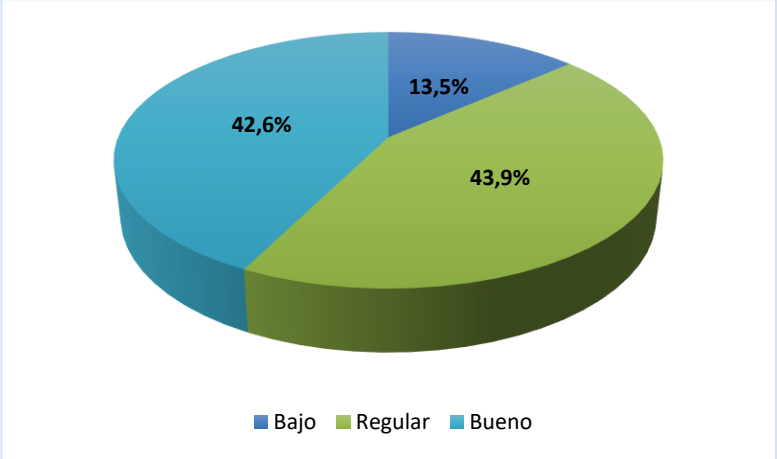


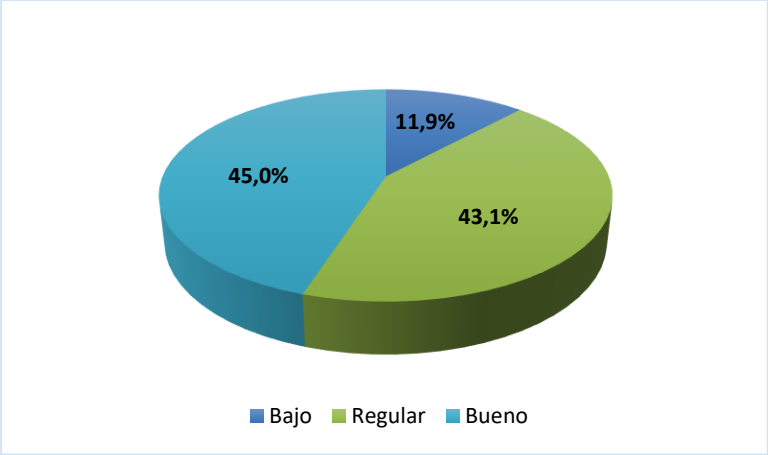
Table 3 shows that 43.9% of the students surveyed rate the response capacity provided at the UEA as fair, so 29.6% of the information accessibility strategies are also considered fair at the same time.

Table 4. Information Accessibility Strategies and the Tangible Elements Dimension in UEA

Dimension: Tangible Elements									
		Low		Regular		Well		Total	
Variable: Information Accessibility Strategies	Low	25	6,7%	2	0,5%	0	0,0%	27	7,3%
	Regular	18	4,9%	116	31,3%	17	4,6%	151	40,7%
	Well	1	0,3%	42	11,3%	150	40,4%	193	52 %
Total		44	11,9%	160	43,1%	167	45,0%	371	100 %

Note. Results obtained from the application of the questionnaire to the students of the FCV of the UEA.

Figure 4. Tangible Elements Dimension



Finally, Table 4 shows that 45% of students rate tangible elements as good, while information accessibility strategies report a percentage of 40.4%, generating a good level from the respondents' appreciation.

Next, we have the analysis of the observation guides on the variable strategies of accessibility to information, implemented to the General Secretariat and Academic Secretariat of the UEA, based on the dimensions described in the self-diagnosis matrix of the document management and archive administration model of Colombia, obtaining the following results:

Table 5. Unit of analysis UEA General Secretariat. In original Spanish language

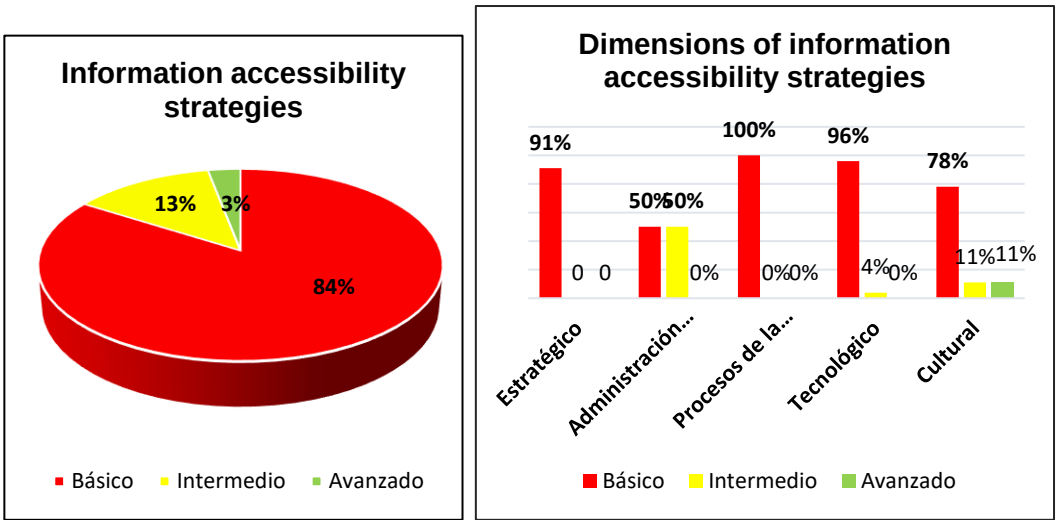
Dimensiones	Indicadores	Niveles		
		Básico	Intermedio	Avanzado
Estratégico	Planeación de la función archivística	72%	14%	14%
	Planificación estratégica	100%	0%	0%
	Control, evaluación y seguimiento	100%	0%	0%
Total de cumplimiento (%):		91%	4.5%	4.5%
Administración de archivos	Administración	100%	0%	0%
	Recursos físicos	0%	100%	0%
	Talento Humano	50%	50%	0%
Total de cumplimiento (%):		50%	50%	0%
Procesos de la gestión documental	Planeación (Técnica)	100%	0%	0%
	Producción	100%	0%	0%
	Gestión y trámite	100%	0%	0%
	Organización	100%	0%	0%
	Transferencias	100%	0%	0%
	Disposición de documentos	100%	0%	0%
	Preservación a largo plazo	100%	0%	0%
	Valoración	100%	0%	0%
Total de cumplimiento (%):		100%	0%	0%
Tecnológico	Articulación de la gestión de documentos electrónicos	100%	0%	0%
	Tecnologías para la gestión de documentos electrónicos	83%	17%	0%
	Seguridad y privacidad	100%	0%	0%
	Interoperabilidad	100%	0%	0%
Total de cumplimiento (%):		96%	4%	0%
Cultural	Gestión del conocimiento	100%	0%	0%
	Redes culturales	33%	33%	33%
	Protección del ambiente	100%	0%	0%
Total de cumplimiento (%):		78%	11%	11%
Total de cumplimiento general (%):		84%	13%	3%

Nota: La tabla muestra los resultados obtenidos de la aplicación de la guía de observación en sus dimensiones y niveles.

Compliance level (%):

Advanced:	3%
Intermediate:	13%
Basic:	84%

Figure 5. Levels of Regulatory Compliance by Dimension of Information Accessibility Strategies



In this regard, it can be observed that, within the levels of compliance with the standard by the General Secretariat, 84% falls on the basic level, which shows that there are deficiencies in the application of the current document management regulations; regarding the effective treatment and storage of the information generated from the administrative and academic processes of the institution.

Table 6. Unit of analysis: UEA Academic Secretariat. In original Spanish language

Dimensiones	Ítems	Niveles		
		No cumple	Cumplimiento parcial	Cumplimiento total
Estratégico	Diagnóstico de la situación actual.	100%	0%	0%
	Plan anual de la gestión documental.	100%	0%	0%
	Programas de gestión documental.	100%	0%	0%
	Evaluación.	100%	0%	0%
	Auditoría.	100%	0%	0%
Total de cumplimiento (%):		100%	0%	0%
Administración de archivos	Mobiliarios suficientes y adecuados.	100%	0%	0%
	Infraestructura adecuada.	100%	0%	0%
	Materiales informativos.	0%	100%	0%
	Formatos de peticiones.	100%	0%	0%
	Personal calificado.	100%	0%	0%
	Capacitaciones.	0%	100%	0%
Total de cumplimiento (%):		67%	33%	0%
Procesos de la gestión documental	Procedimientos para la creación de expedientes.	100%	0%	0%
	Identificación documental.	100%	0%	0%
	Prevención documental.	0%	100%	0%
	Archivo de documentos originales.	100%	0%	0%
	Procedimiento para conservación de documentos electrónicos.	100%	0%	0%
	Metadatos.	0%	0%	100%
	Radicados.	0%	0%	100%
	Interrelación documentos digitales con las series documentales.	100%	0%	0%
	Clasificación de expedientes conforme el CGCD.	100%	0%	0%
	Codificación de expedientes conforme la estructura del CGCD.	100%	0%	0%
	Hoja guía.	0%	0%	100%
	Ordenamiento documental.	0%	0%	100%
	Cierre de expedientes de un mismo proceso.	0%	0%	100%
	Expurgo documental.	0%	0%	100%
	Foliación documental.	0%	0%	100%
	Índice electrónico de expedientes híbridos y electrónicos.	0%	0%	100%
	Rotulación.	0%	0%	100%
	Etiquetado conforme las directrices institucionales.	100%	0%	0%
	Inventario de expedientes.	0%	0%	100%

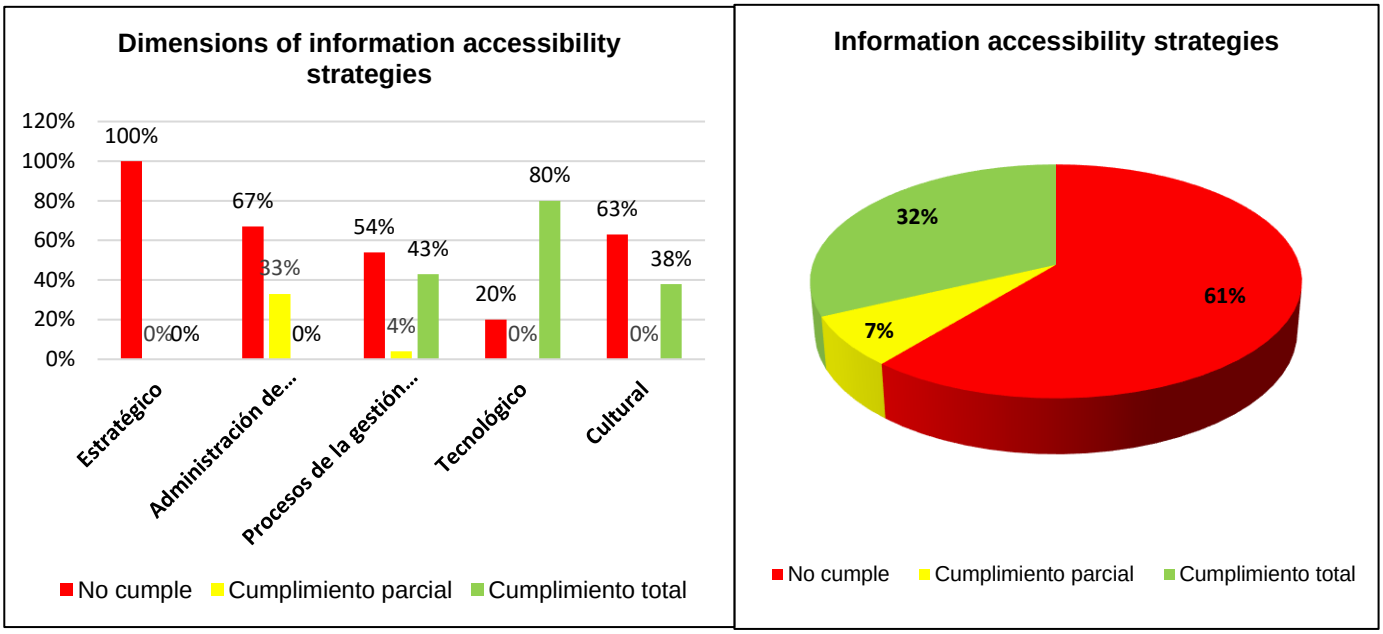
	Inventario total del acervo documental.	100%	0%	0%
	Fondos acumulados.	0%	0%	100%
	Diagnóstico de fondos acumulados.	100%	0%	0%
	Inventario de los fondos acumulados.	100%	0%	0%
	Plan de trabajo de los fondos acumulados.	100%	0%	0%
	Organización de los fondos acumulados.	100%	0%	0%
	Proyecto para la organización de los fondos acumulados.	100%	0%	0%
	Transferencia primaria documental física.	0%	0%	100%
	Transferencia primaria documental electrónica.	100%	0%	0%
Total de cumplimiento (%):		54%	4%	43%
Tecnológico	Almacenamiento en carpetas compartidas.	0%	0%	100%
	Almacenamiento en software documental.	0%	0%	100%
	Almacenamiento en Nube.	0%	0%	100%
	Copias de seguridad (Back up).	0%	0%	100%
	Directrices para la digitalización.	100%	0%	0%
Total de cumplimiento (%):		20%	0%	80%
Cultural	Entrega de expedientes al desvincularse.	100%	0%	0%
	Instructivo para la entrega y recepción de documentos.	100%	0%	0%
	Sistema de recepción, entrega y codificación de documentos.	0%	0%	100%
	Seguimiento a la solicitud.	0%	0%	100%
	Tiempos de respuestas.	0%	0%	100%
	Consultas documentales reglamentada.	100%	0%	0%
	Reporte de consultas efectuadas.	100%	0%	0%
	Procedimientos para la consulta y préstamo documental.	100%	0%	0%
Total de cumplimiento (%):		63%	0%	38%
Total de cumplimiento general (%):		61%	7%	32%

Nota: La tabla muestra los resultados obtenidos de la aplicación de la guía de observación en sus dimensiones y niveles.

Compliance level (%):	
Full Compliance:	32%
Partial Compliance:	7%

Does not comply: 61%

Figure 6. Levels of Regulatory Compliance by Dimension of Information Accessibility Strategies



These results reflect the conditions in which the processes applied for the treatment of the academic information of UEA students are found, which, according to the applied observation guide, has a weight of 61% in the level of non-compliance with current archival regulations, of which, the dimension in which it is most not complied with is the strategic one.

Inferential results:

Table 7. Normality Tests

	Kolmogórov-Smirnov			Shapiro-Wilk		
	Estadístico	gl	Sig.	Estadístico	gl	Sig.
Calidad del servicio	,066	371	,000	,973	371	,000
Estrategias de accesibilidad a la información	,079	371	,000	,957	371	,000

a. Corrección de significación de Lilliefors

In order to name the statistic to be used, the Kolmogorov-Smirnov and Shapiro-Wilk Normality Test was applied, of which, having a sample greater than 30 (371> 30), the detailed significance value for both Kolmogorov-Smirnov variables is considered for the analysis, being the same of 0.000 and 0.000 < 0.05 therefore, they are not normal, and if they are not, Spearman's non-parametric Rho test will be implemented for this study.

Table 8Correlation between service quality and information accessibility strategies

		Calidad del servicio	Estrategias de accesibilidad de la información
Calidad del servicio	Coeficiente de correlación	1,000	,859**
	Sig. (bilateral)	.	,000
	N	371	371
Estrategias de accesibilidad a la información	Coeficiente de correlación	,859**	1,000
	Sig. (bilateral)	,000	.
	N	371	371

** La correlación es significativa en el nivel 0,01 (bilateral).

The results shown in Table 12 report an Rho = 0.859 and this being close to 0.90 as determined (Townsend, 2023) on the correlational value scale, there is a very strong positive correlation between the variables quality of service and information accessibility strategies.

Figure 7. Correlational Value Scale. In original Spanish language

ESCALA DE VALORES	
Valor de r	**Interpretación**
+0,91 a + 1,00	Correlación positiva perfecta
+0,76 a + 0,90	Correlación positiva muy fuerte
+0,51 a + 0,75	Correlación positiva considerable
+0,11 a + 0,50	Correlación positiva media
+0,01 a + 0,10	Correlación positiva débil

Note. Scale of correlational values described by Townsend, J. (2023)

In addition, since there is a significance scale of 0.000 (p - value < 0.05), the null hypothesis is rejected and the research hypothesis is accepted, from which it translates that information accessibility strategies significantly strengthen the quality of the service provided in the UEA.

Table 9. Correlation between information accessibility strategies and the reliability dimension. In original Spanish language

		Estrategias de accesibilidad	Fiabilidad
Estrategias de accesibilidad	Coeficiente de correlación	1,000	,798**
	Sig. (bilateral)	.	,000
	N	371	371
Fiabilidad	Coeficiente de correlación	,798**	1,000
	Sig. (bilateral)	,000	.
	N	371	371

** La correlación es significativa en el nivel 0,01 (bilateral).

Table 9 shows a very strong positive correlation between information accessibility strategies and reliability, with an Rho = 0.798 and a significance scale of 0.000 ($p < 0.05$), so the research hypothesis is accepted.

Table 10. Correlation between information accessibility strategies and the responsiveness dimension. In original Spanish language

		Estrategias de accesibilidad	Capacidad de respuesta
Estrategias de accesibilidad	Coeficiente de correlación	1,000	,742**
	Sig. (bilateral)	.	,000
	N	371	371
Capacidad de respuesta	Coeficiente de correlación	,742**	1,000
	Sig. (bilateral)	,000	.
	N	371	371

** La correlación es significativa en el nivel 0,01 (bilateral).

Table 10 shows a very strong positive correlation between information accessibility strategies and responsiveness, with an Rho = 0.742 and a significance scale of 0.000 ($p < 0.05$), so the research hypothesis is accepted.

Table 11. Correlation between information accessibility strategies and the tangible elements dimension. In original Spanish language

		Estrategias de accesibilidad	Elementos tangibles
Estrategias de accesibilidad	Coeficiente de correlación	1,000	,842**
	Sig. (bilateral)	.	,000
	N	371	371
Elementos tangibles	Coeficiente de correlación	,842**	1,000
	Sig. (bilateral)	,000	.
	N	371	371

**. La correlación es significativa en el nivel 0,01 (bilateral).

Finally, Table 11 shows a very strong positive correlation between information accessibility strategies and tangible elements with an Rho = 0.842 and a significance scale of 0.000 ($p < 0.05$), so the research hypothesis is accepted.

DISCUSSION

In relation to the main objective of this study, the results of the descriptive statistics indicate that 52% of the students surveyed consider that the information accessibility strategies implemented at UEA are good. However, these strategies are not enough, as the quality of service is rated as fair at 44.7%. Both variables show a correlation, as evidenced by applying the non-parametric normality test and Spearman's Rho coefficient, obtaining an Rho value = 0.859** and a significance value of 0.000 ($p < 0.05$). This indicates a very strong positive relationship between the study variables, which confirms the research hypothesis.

This suggests that by implementing strategies that improve accessibility to information at the university, the quality of service will improve by meeting the needs and expectations of students. Considering the above, Arroyo (2023) defines information accessibility strategies as a set of rational methods designed to achieve institutional goals and objectives. These methods require key factors that diagnose the current situation of the entity in order to propose improvements that meet the demands of citizens.

In this context, universities, when providing a service to the community, must define actions that are aligned with excellence. These actions should not only be related to training, but also to administrative management, since the latter involves technological aspects, planning, procedures for the management of information and the service that servers must provide to students (Martínez et al., 2020).

Higher education institutions that are part of the General State Budget must ensure transparency in their activities. This implies the definition of a series of processes that ensure the proper management of the information they generate and custody, since this is the evidence of their institutional actions (Martínez et al., 2020). This information must be comprehensive and of high quality, which requires measures for its effective conservation through various means, thus allowing the timely search of data and the provision of an efficient service to citizens (Chancay et al., 2021).

The quality of the service provided by these entities is linked to citizens' perceptions. Therefore, their behavior will tend to change based on what is appreciated, which involves making sure that users receive the most appropriate service according to their needs (Chancay et al., 2021). This is confirmed in the mixed-approach study conducted by Florián et al. (2022) in an MSE in Trujillo, Peru. They conclude that, in order to improve the quality of the services provided by an entity, it is necessary to implement strategies, such as strategic planning, that allow the establishment of objectives and goals for their improvement.

A similar result was found in a study conducted at a university in Chile on student satisfaction with the quality of services provided. With a positive relationship between the variables defined for this research, they conclude on the need to implement measures that improve access to the information generated from the admission of students. This will allow for efficient delivery, improve service and ensure quality (Ruff et al., 2021).

According to these results, the quality theory proposed by Joseph Juran is supported, which is based on a trilogy of processes: planning, control and continuous improvement. This theory involves the implementation of plans that provide mechanisms aligned with the institutional mission, which leads to the monitoring of activities to evaluate progress during their execution. Finally, based on the results, there is a tendency to suggest

modifications in the process, make corrections and, ultimately, achieve an efficient quality of service (Ruff et al., 2021).

In the context of this theory, the descriptive data of the observation guides carried out in this research are supported. First, the General Secretariat, which is responsible for providing guidelines for the proper handling of information at the institutional level. This unit has a basic level of compliance with the standard on the organization of archives with 84 per cent, which reveals weaknesses in: (a) Implementation, control and evaluation of plans; (b) Management of the resources required for infrastructure and human talent; (c) Processes related to records management; (d) Management of electronic information; and finally, (e) The cultural field.

Secondly, the Academic Secretary's Office, whose production unit centralises the information on the academic processes carried out by all the departments that manage matters from admission to the registration of the degree of students who are studying one of the degrees offered at the UEA. Like the above-mentioned secretariat, 61% do not fully comply with the application of the regulations within the information processing processes, including archives administration, document management processes, technological and cultural aspects at the strategic levels, while only 32% have a level of full compliance.

In summary, if the General Secretariat does not provide guidelines on the management and processing of information at the institutional level, as established by Ecuadorian legislation, all units will be affected, one of them being the Academic Secretary. Against this backdrop, there is a need to design and implement strategies that organize documentary records in accordance with the guidelines established in the standards, in order to improve the service provided, in addition to projecting an excellent institutional image, an effect that supports it. (Quevedo, 2019)

Referring to the most important theoretical approach in the field of information, i.e. Itami and Roehl's Information Flow; A flow that requires acquiring the largest amount of data found in an entity's environment (customers, regulations, budgets, technologies, etc.), to then integrate it with those generated internally and thus be able to make the best decisions and knowledge, which ultimately lead to providing information based on the needs of users.

In summary, if the information generated by government entities strengthens the democratic spaces of public administration, facilitates an effective exercise of social control, and makes the actions of entities and their authorities transparent, it must be provided to citizens in a reliable, equitable, and high-quality manner. This is especially relevant in the postmodern context, where there is an unequal distribution of data between different countries on several continents, which limits the availability of rights such as access to public information. These circumstances are analysed from the science of archives to give greater attention to the field of communication and knowledge (Quevedo, 2019).

As for the descriptive data of the reliability dimension of the quality of the service, this represents a good level with 43.9% according to the perception of the students surveyed. Likewise, the variable of information accessibility strategies shows a good degree with 38.8%. In the inferential register, an Rho=0.798 and a significance of 0.000 (p-value < 0.05) are presented, which implies a very strong positive correlation between the variable and the study dimension. Therefore, we accept the research hypothesis that suggests that, by implementing better information accessibility strategies in the institution, the reliability of providing a service in a more reliable and prudent manner will increase.

The ability to provide a service to users without errors, at the right time and accurately is considered reliability by the authors Arias and Rodríguez (2021). Therefore, the skills possessed by the staff who perform a function within the entity play a fundamental role in

the quality of the service. Productivity tends to be improved if strategies are applied to improve the skills of human talent, since these are related to the academic and administrative processes that are developed.

In addition, through the study in a commercial entity in Mexico with an exploratory, descriptive and correlational approach, they obtained as a result a p-value of less than 0.05, that is, 0.008, which indicates a positive relationship between the variables quality of service, satisfaction and loyalty that a customer has with the entity if he receives the service as requested. Therefore, the care provided in an institution and the factors that influence it (human talent, materials, equipment, etc.) will lead to an increase in a user's loyalty when requesting a procedure (Arias & Rodríguez, 2021).

This perspective, under the doctrine of knowledge management, highlights the importance of workers' intellect. Therefore, knowledge of all the functions carried out in the entity is required to structure communication in accordance with the organizational culture and systematic procedures, with the aim of achieving established goals, generating a competitive advantage, and optimizing decision-making (Arias & Rodríguez, 2021).

The ultimate goal will determine the way forward by designing and implementing strategies that identify and illustrate the steps needed to bring about change, in a specific time frame and with stakeholder participation. This action needs to be complemented with the processes of planning and evaluation of activities, in order to measure the desired results. This assumption is analysed by researchers such as Cassetti and Paredes (2020) under the vision of the theory of change approach, proposed by Kurt Lewin.

Regarding the responsiveness of the service quality variable, it is considered to have a regular level of 43.9% according to the perception of the respondents. Similarly, information accessibility strategies show a fair degree of 29.6%. These inferential results tend to show a Spearman's Rho of (R = 0.742**) and an alpha level of 0.000 that is totally significant and less than the p-value of 0.05. To this effect, we accept the research hypothesis that if strategies for information accessibility maintain a highly significant degree, response times and other factors to respond in a timely manner to services requested by students will tend to improve together.

In reference to tangible elements such as computer software and the area that attends to academic services at UEA, they have a good level in the perception of students with 45%, which leads to infer that information accessibility strategies also have an acceptable level of 40.4%. Regarding inferential results, there is an Rho = 0.842** and a significance of 0.000 lower than the p<0.05 scale, leading to the acceptance of the research hypothesis, therefore, when implementing strategies that involve making improvements in the accessibility to information, the tangible elements implemented to attend a service in the entity, They will show an acceptable image to the perception of users.

We can link these results with the quantitative research carried out by Martínez et al., (2020), which addresses the multiple benefits offered by computer systems as long as they have interoperability of information between various platforms, timely access to data and construction of electronic files, among others. This makes a worker's day-to-day tasks easier by having all the necessary information to provide timely service to their customers.

Accessibility to information not only needs to be timely to increase user satisfaction when using computer software and carrying out procedures, but also efficient, which is complemented by an advantage over the actions carried out in the entity. This effect is confirmed by Sánchez (2019) in an experimental design study on a system used in the local government of Riobamba, Ecuador, which showed the dissatisfaction of customers who demand the institution's services due to the lack of quality data. Therefore, they recommend improving the modules of enterprise resource planning software.

However, as long as document management software presents deficiencies in the quantity and total quality of the information entered, it will not be able to provide an efficient service. This is affirmed by Ruff et al. (2021) through the evaluation of a computer program applied in a healthcare facility in Brazil. To conclude from this study, numerous defects in not having enough information when consulted, weaknesses in management by officials and insufficient connectivity, which leads to incomplete electronic records and, therefore, failures in the service provided in the hospital unit.

Facilities are another critical factor when it comes to tangible elements. In order to evaluate the establishments that provide a care service, Suárez and García (2021), through a survey applied to 293 students from four universities in Ecuador, conclude that the perception of a user is strongly related to the appearance of the facilities. Therefore, it is advisable to implement strategies that improve their conditions and carry out periodic evaluations to verify their status and thus satisfy the students who request services daily through these units.

The services cannot be provided in a timely and optimal manner if the physical conditions where the information is stored do not comply with the parameters established in the regulations that administer the management of public archives in Ecuador. This fact is validated by Suarez and García (2021) through a quantitative study at the Technical University of Manabí. The authors conclude, based on a diagnosis of the central area where the documents are archived and subsequent surveys carried out on the servers responsible for the operational, technological and library services units, the need to implement actions aimed at the proper management of the facilities and the documentary collection that an entity has. Otherwise, it will pose a high risk to the data provided to users.

Therefore, it is essential for institutions to keep the information they generate complete and up-to-date. It must be organized in accordance with the technical standards required by law, regardless of the means of distribution or storage. This practice is essential to facilitate access to public information, support decision-making, and promote transparency. This interpretation has been supported by several authors who have studied public administration, using quantitative approaches in their research carried out in Ecuadorian entities (Arias & Rodríguez, 2021).

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