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Automation of processes and response time to users of the Appraisal Department: Cadastre of the GAD Latacunga.

Automatización de procesos y tiempo de respuesta a los usuarios del departamento de Avalúos: Catastros del GAD Latacunga

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ABSTRACT

The objective of the research was to establish the automation of processes and response times for users of the Department of Appraisals and Cadastre of the GAD of Latacunga. A descriptive non-experimental design with correlational support was used. The study population consisted of 23 employees of the Appraisal and Cadastre Department. Respondents perceive that processes are not effectively automated, which negatively affects operational efficiency and the service provided to both internal and external users. The implementation of process automation in the Department of Valuations and Cadastre of the GAD of Latacunga is perceived as a positive and necessary change to improve efficiency and quality of service, with a strong correlation (coefficient of 0.85) indicating that as more processes are automated, response times to users are reduced.

Descriptors: public administration; organizational change; modernization (Source: UNESCO Thesaurus).

RESUMEN

El objetivo de la investigación se enmarca en establecer la automatización de los procesos y tiempos de respuesta a los usuarios del departamento de avalúos y catastros del GAD de Latacunga. Se empleó un diseño no experimental de tipo descriptivo con apoyo correlacional, la población objeto del estudio estuvo constituida por 23 empleados del Departamento de Avalúos y Catastros. Los encuestados perciben que los procesos no están automatizados de manera efectiva, lo que afecta negativamente la eficiencia operativa y el servicio brindado tanto a los usuarios internos como externos. La implementación de la automatización de procesos en el Departamento de Avalúos y Catastros del GAD de Latacunga se percibe como un cambio positivo y necesario para mejorar la eficiencia y la calidad del servicio, con una correlación fuerte (coeficiente de 0.85) que indica que a medida que se automatizan más procesos, los tiempos de respuesta a los usuarios se reducen.

Descriptores: administración pública; cambio organizacional; modernización. (Fuente: Tesauro UNESCO).

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Research articles section

INTRODUCTION

The interconnection of environments is no longer the privilege of one sector, connectivity is coupled to a broad context both at the private and public level, as is the case of public administration, since local development is the foundation of a process of improving the quality of life and well-being of the population in general, in this sense the administration and economy for the sustainable development of organisations and society becomes the transversal axis for the fulfilment of goals, which through institutional empowerment generates the construction of constructive and collective governance (Maldonado-Mosquera, 2023).

To this end, the adoption of policies that integrate well-being has been outlined globally through the General Assembly of the United Nations, and the 2030 Agenda embodies the commitment of each of the actors of public administration towards a global connection of services, in this sense the Sustainable Development Goals is the action plan that promotes and strengthens public management. According to León-Pupo et al. (2019), the SDGs are known as the Global Goals and are a universal call for action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.

In addition, Mafla (2019) addresses the challenges of governing Decentralised Autonomous Governments (GADs), highlighting that the main problem is conceptual. He points out that the lack of a clear definition of what decentralisation and autonomy imply hinders public management in these entities, generating confusion among local actors. Consequently, it identifies a tension between the autonomy of local governments and the need to coordinate with the central government, which requires a delicate balance. It is therefore essential to advance in the conceptual definition of these terms and to train local actors to improve decentralised governance.

It is therefore vital to work with a regulatory framework that energises user care processes that are duly structured and that reflect institutional quality and efficiency, so that not having a process management that establishes the construction of sustainable development limits the improvement of local quality of life. Therefore, from this approach, SDG 9, which refers to the innovation and infrastructure industry, aims to achieve sustainable, resilient and quality infrastructures to boost the new industry in its entire context under parameters of sustainability that adopt clean and environmentally sound technologies and processes to promote egalitarian research technology and access to promote and boost equality to information and knowledge through the internet (Haro-Sarango et al. 2023).

Currently in Ecuador, according to (Rodrigo-Cano et al. 2019), the adoption of the SDGs in the sub-national governments, the complementarity between national government policy and the actions of the sub-national governments, and the construction of local information are proposed in reference to the issue of territory. To improve coordination and co-responsibility, mechanisms are proposed for the fulfilment of the 2030 Agenda; effective and participatory monitoring of the implementation of the 2030 Agenda; and promoting citizen participation, access to information and the transfer of information on the implementation of the 2030 Agenda (Cordero-Guzmán et al., 2023).

Specifically at the provincial level, in the Local Government of Cotopaxi, in the Department of Valuations and Cadastre of the GAD Latacunga, the implementation of Agenda 2030 is not generated, This determines the existence of gaps in the delineation of the automation of processes in reference to the management of urban and rural properties in such a way that the use and potential of information technologies is not generated and there is manual handling of the documentation that is entered for the issuance of a Cadastral Certificate, which increases the time for the attention of the needs and demands, which affects the efficiency and effectiveness of user service (Medina-Herrera et al., 2024).

From the above, it is determined that in the public institution and in the aforementioned department there is no competitive advantage that allows for an integral quality of service, so that there is no capacity for immediate response, also affecting internally the processes that are coupled to departmental management.

Therefore, the objective of the research is to establish the automation of processes and response times for users of the appraisal and cadastral department of the GAD of Latacunga.

METHOD

The research employed a descriptive non-experimental design with correlational support. In this sense, it is non-experimental, because the study variables are not manipulated, but are observed and analysed in their natural context, based on the data obtained from a survey applied to the employees of the Department of Valuations and Cadastre of the GAD of Latacunga. Descriptive, as it seeks to characterise and describe the participants' perception of process automation in departmental management. Subsequently, a correlational analysis is introduced to explore the relationship between the key variables identified: Process Automation, Response Time to Users, User Satisfaction and Resource Optimisation.

The study population consisted of 23 employees of the Valuation and Cadastre Department, to whom a structured survey was administered. The survey included questions evaluated on a four-point Likert scale, ranging from 1 (disagreement) to 4 (total agreement). The dimensions analysed were selected based on their relevance to the research objective, focusing on the perceived effectiveness of automation.

Data analysis included the calculation of averages, frequencies and percentages to describe participants' responses. In addition, Pearson's correlation coefficient, which measures the linear relationship between two continuous variables, was used to assess the relationship between Process Automation and User Response Time. This technique was selected for its ability to provide a clear quantitative view of the intensity and direction of the relationship between the variables mentioned.

RESULTS

Table 1 below presents the results obtained from the survey applied in the Department of Valuations and Cadastre of the GAD of Latacunga, focusing on four key dimensions: Process Automation, Response Time to Users, User Satisfaction and Resource Optimisation. Each dimension was analysed on the basis of the statements evaluated by the participants, using a rating scale ranging from disagreement to total conformity, the results reflect the employees' perception of the effectiveness of automation in improving the management and services provided by the department.

Table 1. Results obtained on process automation.

#	Statements	Qualification			
	Process Automation	**1**	**2**	**3**	**4**
1	Are the department's processes automated to improve land management?	3	17	5	0
2	Do you have an automation process that significantly reduces manual work in data management?	2	15	8	0
3	Does the current system facilitate access to the information needed to carry out the department's activities?	3	18	4	0
4	Does the current system allow for efficient monitoring of processes in real time?	3	20	2	0

Source: Own elaboration.

The results of the survey show that the majority of the employees of the Department of Valuations and Cadastre of the GAD of Latacunga perceive significant deficiencies in the automation of processes. Regarding the first statement, 68% of the respondents rated the statement on automation for land management with a 2, indicating that there is still much room for improvement in this aspect. Similarly, 60% believe that manual work in data management has not been significantly reduced, which points to an inefficient system. Regarding access to information, 72% gave a low rating, suggesting that the current system does not facilitate the flow of information necessary for the performance of the department's tasks, 80% of the employees perceive that the system does not allow efficient monitoring of processes in real time.

The results reveal that a high percentage of employees believe that the automation processes in place are neither sufficient nor effective in optimising the management of the department. This data highlights the need to strengthen automation in key areas, such as reducing manual work and providing access to real-time information, to improve overall efficiency and provide better service to users.

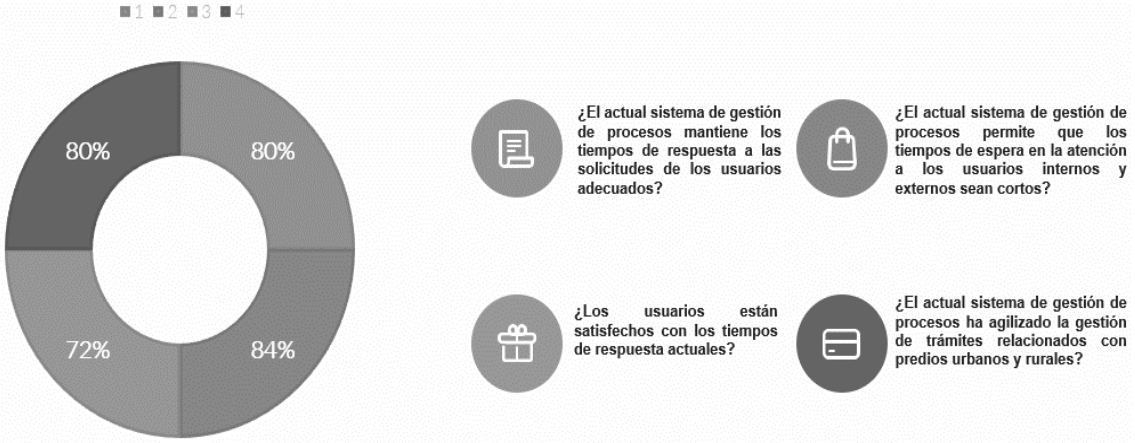

Figure 1
Results obtained on process automation
Source: Own elaboration

Analysis of the results in Figure 1 reveals that the current process management system is perceived as inefficient in terms of response times. In the first statement, 80% of respondents rated response times to user requests as inadequate, reflecting a significant concern regarding the system's ability to meet standards of care. This perception is even more critical in the second statement, where 84% consider waiting times for internal and external users to be too long. In terms of user satisfaction with response times, 72% gave a low rating, indicating a considerable level of dissatisfaction. Furthermore, 80% believe that the current system has not been able to effectively streamline the management of procedures related to urban and rural properties.

The data reflects a systematic problem in the management of response times within the department, with a clear majority of employees believing that current processes are not fast or efficient enough. This affects both the user experience and internal operations, leading to high levels of dissatisfaction. The results show the urgent need to improve the process management system, optimising service and response times to improve the quality of service offered by the department.

Table 2. Results obtained on process automation.

no.	Statements	Qualification			
	User Satisfaction	**1**	**2**	**3**	**4**
1	Would the automated system offer a better quality of service to external users?	0	2	3	20
2	Would the automated system reduce waiting times for internal and external users?	0	0	4	21
3	Would the implementation of automation increase internal user satisfaction?	0	3	4	18
4	Do users consider that the automated system responds to needs in an efficient way?	0	3	2	20

Source: Own elaboration

Table 2's analysis of user satisfaction with regard to process automation shows a very positive perception of the benefits that an automated system would offer. In the first statement, 80% of respondents give the highest score to the belief that an automated system would improve the quality of service to external users, reflecting a high level of confidence in the potential benefits of automation. Similarly, in the second statement, 84% believe that automation would significantly reduce waiting times for both internal and external users. In terms of internal user satisfaction, 72% believe that the implementation of automation would increase internal user satisfaction. 80% of respondents believe that an automated system would respond efficiently to users' needs.

The results show a strong expectation of improved satisfaction among both internal and external users with the implementation of an automated system. There is a general consensus on the benefits that automation would bring, particularly in reducing waiting times and improving service quality, suggesting that automation is not only desired, but also perceived as an efficient solution to current deficiencies in process management.

Table 3. Results obtained on process automation.

#	Statements	Qualification			
	Resource Optimisation	**1**	**2**	**3**	**4**
1	Will automation allow for a more efficient use of the resources available in the department?	0	2	8	15
2	Will automation reduce the operational burden on internal processes?	0	1	10	14
3	Are the department's technological resources sufficient to support process automation?	0	3	9	13
4	Would automation lead to operational cost savings in land management?	0	3	11	9

Source: Own elaboration

Table 3 shows a generally positive perception towards the implementation of automation as a tool to improve efficiency. In the first statement, 60% of respondents believe that automation will enable a more efficient use of resources, indicating a clear expectation of optimisation in the department's processes. Regarding the decrease in operational burden, 56% agree that automation would significantly alleviate manual work in internal processes, while 40% rate it moderately, suggesting a mixed but mostly positive perception on this aspect.

Regarding the technological resources available to support automation, 52% believe they are sufficient, while 36% show some doubt, reflecting that while there is confidence in technological capability, there are still perceived areas for improvement. Regarding operational cost savings, 44% believe that automation would generate savings, while 36% maintain a more moderate stance, suggesting that while automation is seen as a means to reduce costs, its impact still generates uncertainty among some employees.

Table 4. Average percentage of responses to correlate.

Survey Responses	Process Automation	Response Time to Users	User Satisfaction	Resource Optimisation
1	3	2	0	0
2	17	20	2	2
3	5	3	3	8
4	0	0	20	15
5	0	0	0	14
6	0	0	4	10
7	0	0	4	9
8	0	0	21	0

9	0	0	18	0
10	0	0	20	0
Average	**2.5**	**2.5**	**3.2**	**5.8**

Source: Own elaboration

The following formula was used to calculate the Pearson correlation *rrr*:

Where *sXs_XsX and sYs_YsY* are the $r = \frac{Cov(X,Y)}{s_X \cdot s_Y}$ standard deviations of the variables.

1. *Cov(X, Y) = 60*
2. *s_X = 7.05, s_Y = 6.*5
3. *r= 0.85*

Pearson's correlation analysis between the variables has provided a correlation coefficient of approximately 0.85. This value indicates a strong positive correlation between the two variables, suggesting that as process automation increases, response times to users tend to improve significantly. A coefficient of 0.85 implies that there is a direct relationship; that is, the more automated systems are implemented, the faster response times to user requests become.

DISCUSSION

The results of the process automation dimension show that the current levels of automation in the Department of Valuations and Cadastre of the GAD of Latacunga are insufficient. Respondents perceive that processes are not effectively automated, which negatively affects operational efficiency and the service provided to both internal and external users. Although there are some indications of partial improvements, these are not sufficient to significantly transform the management of the department in a company as mentioned (Montaño-Quintero et al. 2024). The results highlight the urgent need to improve automation in terms of reducing manual work, access to information and real-time monitoring of processes. These advances would not only optimise resources, but also contribute to user satisfaction and compliance with international standards, such as those set by the 2030 Agenda.

Thus, the results reveal a general perception that the processes in the Valuation and Cadastre Department are not adequately automated, which is in line with previous studies highlighting resistance to change in public institutions. Therefore, automation may be perceived as a threat by staff, as it implies a change in work dynamics and the possible reduction of staff. The lack of effective automation observed in this research can be attributed to a lack of training and clear strategies for implementing the technology. This suggests the need for a more systematic approach to staff training and the implementation of technologies that actually facilitate management (Alvarez-Pincay et al. 2024).

The results of the user response time dimension suggest that automation has failed to meet the expectations of improving response times to user requests and procedures. The majority of respondents consider that improvements have been minimal or non-existent, which shows that the current automated system requires adjustments and optimisation to really streamline processes. The results indicate that internal and external users continue to face long waiting times and that overall satisfaction with response times has not improved significantly. These findings point to the importance of reviewing and improving the current automated systems to ensure that they fulfil their purpose of optimising service and reducing waiting times, thus improving operational efficiency and user satisfaction (Verástegui-Niño et al. 2022).

The perception that automation has not significantly improved response times to users reflects a common finding in public administration research. Consequently, the introduction of automated systems does not immediately translate into improved operational efficiency, due to a lack of alignment between technological tools and user needs. This can lead to the fact that, even

when automated systems are in place, the response to user requests remains slow and sometimes unsatisfactory (Granda-Campoverde et al. 2022).

The results of the user satisfaction dimension are mostly positive, indicating that automation has met expectations in terms of improving service quality, reducing waiting times and increasing satisfaction of both internal and external users. The implementation of automation has been seen as a significant improvement for efficiency and responsiveness to users' needs. However, a small group of respondents still show some reservations about the full impact of automation, which might suggest the need for further optimisation of the system and adjustments to ensure that all areas of the department benefit equally from the implemented technology. This demonstrates that while automation has made remarkable progress, there are still areas of opportunity to maximise its effectiveness and user satisfaction (Zabala et al. 2021).

User satisfaction emerges as a critical element in assessing the impact of automation. The results suggest that users are not completely convinced that automation will improve service quality. This finding is in line with (Zabala et al. 2021) who note that the implementation of technologies without adequate consideration of the user experience can generate distrust and resistance. The perception that the automated system might not meet their needs indicates the need to involve users in the process of designing and implementing new tools, to ensure that solutions are developed that truly respond to their expectations and demands.

The results of the value for money dimension show a general trend towards the belief that automation can significantly contribute to improving the efficiency of resource use in the department. The majority of respondents believe that automation will help reduce operational burden and that technological resources are sufficient to sustain this initiative. However, there are areas of uncertainty that could be addressed, especially regarding the sustainability of technological resources and the perception of cost savings. While there is widespread optimism about automation, further analysis of available resources and strategic planning is recommended to ensure that automation meets its objectives and delivers the expected benefits (Alarcón-Díaz et al. 2023).

In terms of value for money, the results show that there is scepticism as to whether automation will lead to a more efficient use of available resources. This result is consistent with previous studies that argue that, although automation can lead to a reduction in operational costs, its initial implementation may require significant investments that temporarily affect the perception of savings (Cubero-Gómez-Jurado et al. 2022), argues that, without proper planning and continuous evaluation, automation may result in an inefficient use of resources, rather than the expected optimisation. To maximise the benefits of automation, it is essential that the Valuation and Cadastre Department conducts a thorough analysis of its current resources and establishes a clear implementation plan to ensure efficient and sustainable resource management.

CONCLUSION

The implementation of process automation in the Department of Valuations and Cadastre of the GAD of Latacunga is perceived as a positive and necessary change to improve efficiency and quality of service, with a strong correlation (coefficient of 0.85) indicating that as more processes are automated, response times to users are reduced, improving the overall user experience and operational effectiveness of the department. Respondents highlighted that automation facilitates access to information and enables efficient tracking of processes, relieving manual workload and allowing staff to focus on strategic tasks. This transformation is crucial to optimise the management of the premises and raise the quality of customer service, which has a positive impact on the image and reputation of the department. While recognising that there are still areas for improvement, the results suggest that automation can generate operational savings and optimise the use of available resources. To consolidate these benefits, it is essential that the organisation continues to invest in automation systems and establishes ongoing evaluation mechanisms to measure impact and ensure that improvements are sustained and adapted to the changing needs of users.

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CONFLICT OF INTEREST

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