

Model of Digitization of Civil Registration Processes and its Impact on the Issuance of the National Identity Document of Perú

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Abstract

The summary is done at the end of the article, here the objective of the investigation, the contribution, the method used, the scenarios, the methodology used and the results found must be included. Civilization Process Digitalization Model and the issuance of the National Identity Document in Peru. It is a basic investigation, with a non-experimental design of a correlational level, and the "Hypothetical-Deductive" method was used. A sample of 189 of a population of 2978 Civil Registry Offices nationwide was considered for this. To obtain the data, the survey technique and its questionnaire tool were used to assess the Digitalization of Civil Registry Processes, which has a strong reliability and the questionnaire on the Issuance of the National Identity Document. It was obtained that there is a correlation between the variables Digitalization of Civil Registry Processes and the issuance of the National Identity Documents. Then, it was concluded that there is a direct relationship between Digitalization of Civil Registry Processes and the issuance of the National Identity Document in Peru.

Keywords: Digitalization of documents, Civil Registries, Information Security.

1. Introduction

The research aims to establish a digitization model for all organizations seeking to combine an information retrieval model with image and text processing techniques. Organizations today have realized that the vast historical information that is stored in documents can be a handy resource for them. Migrating documents to information systems is an easy but exhaustive task when the document is scanned and associated with metadata. Most of the time, the information contained in the scanned documents is not used. In this sense, optical character recognition allows data to be extracted from scanned text images in such a way that it gives rise to great opportunities to process and obtain information potentially relevant to organizations. The problematic reality in current organizations is exposed; to move, then, to the formulation of the research questions, the objectives, and the justification and importance. Also, the background of the study is presented. The theoretical framework is presented, highlighting the theoretical bases that support the digitization processes, the hypothesis, and the conceptual framework. The existence of international norms and standards about

digitization processes are broad and very specific depending on the type of collection to be treated and the organization's sufficient technological capacity, in this sense the existence of disruptive technologies has allowed this type of technical alternative to be used in processes of any organization since it facilitates the proper optimization of processes in each business unit. Digitization is not currently a new technology; it is stable and necessary for use in any organization. In Peru, we have the Peruvian Technical Standard NTP 392.030-2: 2015, this standard allows all public or private organizations to be aligned in the way and manner of how a digitization line should be established. The Law of Digital Signatures and Certificates No. 27269 is an important component to consider in any digital platform. In the country, this aspect is in full implementation in various technological solutions. Digitization plus digital signature are two important components that must be considered to propose a complete solution, scanned image with a digital signature. Within these two components, the concept of digitization gains strength and facilitates its implementation to optimize all digitized processes. And allow its massive use in digital form. A solution of this nature facilitates the proper management of documents in principle, as well as any solution that interacts with the image database. How does the Digitization of Civil Registers influence the National Identity Document of Peru?

2. Theoretical framework

A necessary process to consider in any organization is the types of collections that exist to optimize processes. When we define collections, we are considering the types of documents that exist in the different types of document archives of an organization. If this is so, how can we generate knowledge through automated processes where the important component is the information contained in images. Images that at the time were captured in thousands of documents that, due to established procedures and norms and standards, were migrated to a digital scheme. If we clearly understand that digitization plays an important role in transferring documents to images and these to information, then we could affirm that the digitized documents serve within the framework of a norm or standard to validate the history of the processes or procedures that at the time they gave. A digitized image that is treated in turn provides enough information to be able to find what we are looking for at the process level; the indexing of documents through systems of pattern recognition or character recognition will facilitate us to find information or images that, summarized in a structured way, we can have electronic files, sequenced or organized electronic forms which will provide us with complete information on what We are looking for. That is, documents, capture equipment, capture standards, formats or forms, character recognition, shape recognition, image alignment, image database, indexing, textual search on schemes or theories where organized under a logic called digital and under a logic called digitization we can find enough information and these properly used will facilitate us

to meet the objectives of each process. The existence of the standards and norms in our country have made it easier for the captured information to be stored appropriately, fully processed, so that it can be reused in different processes. The guidelines established in these regulations to the present allow any digitization line to comply with the previously established. The present investigation developed in the framework of the different cases that occur in public or private organizations is intended to establish using a relevant methodology. What is the way or the way of being able to design or establish digitization lines that, using the standards properly, can optimize the different processes of an organization? Not only is digitizing sufficient, but it is also important to understand the different technological mechanisms that are necessary to obtain adequate and relevant results that serve as inputs to be treated according to the requirements of each process. When we understand that every business unit is made up of a list of processes and that these, in turn, are made up of rules, norms, and standards, then we can affirm that the *raison d'être* of this business unit can be translated using digital technological platforms into information—Linear for decision making. The conceptual framework of this research proposes that to sketch a digitization model it is necessary to understand the types of collections, the types of technologies at the hardware level, the image treatment solution or tool to use, the resolution of the image, the capture equipment, the capture format, the compression to be used, the type of storage, how it will be accessed, the way and how it will be distributed simultaneously, the tools or servers that will be used to be able to distribute information and storage or backup concepts massively. In other words, when we define a conceptual framework for digitization, we are considering a set of technologies and platforms that, used appropriately and with sufficient information, will allow an optimal solution for the design of a process. Navarro, M (2007). "The Peruvian Legal Framework as Support of the Paper Less Capacity Building - Successful Experiences in the Public Sector." It concludes that: The Peruvian legal framework related to Computer Law is integrated into the national legal system coherently and efficiently. Digital Microforms constitute "an answer" to the security of electronic documents and transactions. The promotion and implementation of uniform policy and standards to ensure electronic transactions with legal value will enhance and encourage the development of electronic commerce in our countries. Peru has successful experiences in the public sector and a solid legal framework, but this is only the first stage in the development of electronic commerce. The promotion and implementation of uniform policy and standards to ensure electronic transactions with legal value will enhance and encourage the development of electronic commerce in our countries. Peru has successful experiences in the public sector and a solid legal framework, but this is only the first stage in the development of electronic commerce. The Peruvian Private Sector has the capacity to offer related legal advice and develop software and technological solutions for the implementation of PKIS and paperless processes. Urbina, C (2012). "Certification for the digitization of documents in Chile" Thesis for the title of Industrial Civil Engineer. It concludes that: There are two very clear visions regarding the handling of documents and their

digitization: first, the private sector sees as feasible the subsequent elimination of the paper originals, once the digitization is certified as a faithful copy of the original, and that as a copy has legal value. The public sector, especially archivists (in charge of storing and managing public documents), has a stronghold on paper documents, so they see digitization as a beneficial endorsement, but one that can always behave the original on paper. The case of Peru is of great interest because it is possible to implement the certified digitization of documents at all levels, for both private and public documents. In addition, to achieve greater scope, the decentralization of the service is encouraged, promoting the creation of companies that carry out certified digitization locally. Martínez, Y (2007) MUSUJ QUIPO: “Methodology for the preservation and population of digital documents, applied to the Pedro Zulen central library of UNMSM”. Thesis to choose the title of Systems Engineer. It determines that the use of international standards allows us to preserve, simplify interoperability and facilitate the access by different systems regardless of physical location. Likewise, it establishes that metadata is of great importance in the composition of digital libraries, and it is good practice for metadata at the moment of document production. To start a digital library requires the participation and dedication of various types of professionals working as a team, it also requires many technological and human resources

2.1 Conceptual framework

It is the conversion of an image to binary numbers with the help of a computer, a detailed description of the objects that comprise the scene is provided to the computer, along with the specifications of the camera or scanner. Digital images are electronic photos taken from a scene or scanned from documents, manuscripts, printed texts, illustrations, photographs, etc. A sample of the image is made, and a map in the form of a grid of elementary points (pixels) is made. Each pixel is assigned a tonal value (black, white, gray, color), which is represented by a binary code (zeros and ones). These binary digits ("bits") for each pixel are stored in a sequence and often reduced to a mathematical representation; then, the computer interprets this sequence of bits to reproduce an analog version for display or printing. When you think about digitizing your documents, the first idea that comes to mind may be the amount of time it takes to scan multiple documents by hand. But fortunately, this process has changed in terms of form: there are scanners with great power that allow you to increase the number of pages per minute, or the process can be outsourced. When starting the process, it will be necessary to determine if it is better to acquire the necessary means to do it with your resources (purchase of scanners and other necessary materials) or subcontract the service. This will depend on the needs of the company: the amount of documentation to be digitized, the availability of existing resources, having personnel available to carry it out or not, etc. If it is done manually, that is, the company itself scans the documents, there is specific software that allows the digitization of documents. There are free programs if the information to be digitized is very low; or payment, if you want to

perform more professionally. On the other hand, there is also the option of implementing a document manager with the document capture or digitization module. There are two types of managers, on the one hand, the specific ones for digitizing documents and, on the other, the more general document managers. Document managers focused on digitizing documents usually come from companies that manufacture printing or digitizing machineries such as Canon or Kodak. There are times when software is offered when purchasing the machine. Según Costa JM. (1998), “Un proceso no es más que la sucesión de pasos y decisiones que se siguen para realizar una determinada actividad o tarea que, cuando se trabaja desde el enfoque de gestión de la Calidad Total, deben ir orientados a satisfacer una necesidad de nuestros clientes internos o externos”.

3. Methodology

The type of research and the methods applied are: Descriptive and analytical. The population and sample of the universe are considered with 2978 Civil Registrar Offices nationwide. In this sense, they are responsible at the national level. Probabilistic type, for which the following formula is taken into account:

$$\text{process.}n = \frac{2978 \times 1.96^2 \times 0.05 \times 0.95}{0.03^2 \times (2978 - 1) + 1.96^2 \times 0.05 \times 0.95} = 189$$

Based on the formulated equation, the sample is equivalent to 189 civil registry offices nationwide, The design of a model for the Digitalization of Civil Registry Processes influences the improvement of the National Identity Document in Peru. There is a direct influence between the coverage of the digitization of civil registries in Peru and the DNI process. There is an influence between the under-registration in civil registries and the coverage of the issuance of the DNI. There is a direct relationship between the coverage of live birth certificates and the coverage of DNI issuance. Civil registry digitization coverage reduces the number of late registrations, and there is an influence between the coverage of digitization of civil registries and the DNI

3.1 Instruments:

To measure the variables, an instrument of 13 questions was applied to the variable Model of Digitization of Civil Registry Processes and an instrument of 13 questions to the variable Issuance of the National Identity Document, with their respective indicators. Due to the nature of the study, a documentary compilation was required,

which is the collection of the background related to the research. For this purpose, written, formal and informal documents were consulted, direct observation and surveys were also used, which will complement the present investigation.

3.2 Procedures

All the information collected will be treated as follows:

Data are ordering through the data matrix. Once the information has been collected, it will be filtered, considering its relevance to the substance of the investigation. Interpretation and discussion of charts and graphs. Once all the information has been purified and processed, the corresponding analysis of the same will begin whose criteria for reinforcing the fund will be the theoretical framework.

3.3 Systematization of results.

A theoretical body will be created based on the results produced by the interpretations.

4. Results

The significance evaluation served to determine the existence of correlation, taking into account the following criteria, according to the table 1. The margin of error is 5%.

Table 1 Criteria for the evaluation of significance

Significance values	Interpretation
Less than 0.05	Correlation exists. Testing continues
Equal or greater than 0.05	There is no correlation. The hypothesis is rejected.

4.1 Correlation value evaluation

It was used to determine the strength and type of correlation, taking into account the following criteria:

Table 2 Criteria for evaluating the correlation coefficient

Values	Meaning
[-1.00]	Perfect negative correlation
<-1.00 — -0.90]	Very high negative correlation
<-0.90 — -0.70]	High negative correlation
<-0.70 — -0.40]	Moderate negative correlation

<-0.40 — -0.20]	Low negative correlation
<-0.20 — - 0.00>	Very low negative correlation
[0.00]	Null correlation
<0.00 — 0.20>	A very low positive correlation
[0.20 — 0.40>	Low positive correlation
[0.40 — 0.70>	Moderate positive correlation
[0.70 — 0.90>	High positive correlation
[0.90 — 1.00>	Very high positive correlation
[1.00]	Perfect positive correlation

H1. The design of a model for the Digitization of Civil Registry Processes influences the issuance of the National Identity Document in Peru.

Table 3: Result of the correlation test between the variable “Model of Digitization of Civil Registry Processes and the variable Issuance of National Identity Document.”

		Variable DNI issueI
Variable	Correlation coefficient	0.870
Model of Digitization of Civil Registry Processes	Significance	0.000

Given the condition:

If the significance is > 0.05, the H1 condition is accepted.

If the significance is <0.05, the Ho condition is accepted.

According to table xxx, the value of significance between the variables "Model of Digitization of Civil Registry Processes" and "Issuance of the National Identity Document" (0.00) was lower than the one proposed (0.05), for. Therefore, H1 is accepted. Similarly, the calculated correlation coefficient (0.870) verifies that the correlation is positive. Thus, the hypothesis accepted is accepted: The design of a model of Digitization of Civil Registry Processes influences the issuance of the National Identity Document in Peru. There is a direct influence between the number of civil

registrations in municipalities incorporated into RENIEC and the number of the extemporaneous register in DNI.

Table N ° 4: Results of the correlation test between the Indicator “Number of civil registrations in municipalities incorporated into RENIEC and the “ Number of extemporaneous registrations in DNI ”

		Dimension number of extemporaneous DNI Registrations
Indicator 1 Number of Civil Registries in Municipalities incorporated into RENIEC	Correlation coefficient	0.82
	Significance	0.00

Given the condition:

If the significance is > 0.05 , the H1 condition is accepted.

If the significance is < 0.05 , the Ho condition is accepted.

According to the table, the value of significance between the variables "Number of Civil Registries in Municipalities incorporated into the RENIEC" and "Number of extemporaneous Registrations in DNI" (0.00) has been lower than that stated (0.05), which shows the existence of correlation. Similarly, the calculated correlation coefficient (0.82) verifies that the correlation is positive and high. Therefore, the hypothesis formulated is accepted: There is a direct influence between the number of civil registrations in municipalities incorporated into RENIEC and the number of extemporaneous listings in DNI. The number of civil registries affiliated to RENIEC influences the Civil Registry Sub-registry.

Table N ° 5: Results of the correlation test between the indicators “Number of civil registries affiliated to RENIEC” and the one on the Digital Government Index.

		Indicator 5 Under-registration in Civil Registries
Indicator 2 DNIe index	Correlation coefficient	0.72
	Significance	0.00

Given the condition:

If the significance is > 0.05 , the HE02 condition is accepted.

If the significance is < 0.05 , the Ho condition is accepted.

According to the table, the error value evaluated between the indicators “Number of civil registries affiliated to RENIEC” and the “Sub-registry in Civil Registries” (0.00) has been lower than that stated (0.00), which shows the existence of correlation. Similarly, the calculated correlation coefficient (0.72) verifies that the correlation is moderate positive. Therefore, the hypothesis formulated is accepted: The number of civil registries affiliated to RENIEC influences the Civil Registry Sub-registry. This correlation is moderate positive.

5. Conclusion

After having carried out the fieldwork on our selected sample, acceptable and optimal results have been obtained, which allow us to coincide with the statements established by the different authors, which were cited in the present investigation. The results obtained allow us to establish that there is a relationship between the variables Models of Digitization of Civil Registry Processes and Issuance of the National Identity Document; Similarly, the calculated correlation coefficient checks that the correlation is positive and high. Therefore, the hypothesis that "The design of a model for the Digitization of Civil Registry Processes influences the issuance of the National Identity Document in Peru is accepted."

6. References

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