ANALYSIS OF THE COMPUTERIZATION OF THE ADMINISTRATIVE IDENTITY IN MADAGASCAR

RAZAFINDRAKOTO Joseph Roseluc[1], SAMBO Clément[2], Jean Claude Omer ANDRIANARIMANANA[3]

[1]*Third year doctoral student, Human and Social Sciences, University of Antananarivo, Madagascar*
[2]*Senior University Professor, High School: ENS Toliary, Madagascar*
[3]*Senior University Professor, High School: ENS Antananarivo, Madagascar*

ABSTRACT

Information and Communication Technology is no longer a new thing in Madagascar because, aged around a quarter of a century (1994), it is acclimated to local socio-economico-administrative realities. This is reflected in different administrations, including the management of administrative identity.

The problem is: does the computerization-administrative identity couple make a good housekeeping?

The objective is to recover the entire public and territorial administration in IT tools to have quality, speed and quantity in terms of the results obtained.

The methodology, which implies the key points of argumentation and the approach, was focused on documentation, by researching and reading works written by certain authors working on the level of the topic that interests us. There followed the survey of samples of interlocutors able to answer the questionnaire. The raw information obtained was processed to use the data available in the framework of the SWOT (Strengths, Weaknesses, Opportunities, Threats) method.

In practice, out of the 23 Communes visited during the evaluation: 28% practice computerized birth registration, 16% carry out computerized death registration, 27% for computerized registration of marriages, 18% for computerized registration of divorces. Regarding the National Identity Card (NIC), 3 of the 10 districts visited are computerized. Five software programs are used to manage civil status in these municipalities visited, which respectively have their own unconnected and non-interoperable database.

Indeed, the solutions proposed concern the creation of software suitable for efficient and convincing processing of administrative identity at the scale of the big island. In addition, there is the centralization of the database and its interoperability with other systems.

The expected results, as prospects, are to increase the percentages of computerized registration of births, deaths, marriages, divorces. The same applies to the National Identity Card and the passport. All in all, this administrative identity will be stored in a database that can be interoperated with other systems.

Keywords: *Analysis, computerization, administrative identity, database, interoperability, software*

1. INTRODUCTION

For several years, the Malagasy public administration has embarked on the modernization of its identity system, after having long been involved in the manualization of the processing of user requests. Currently, a step forward in this administrative computerization has been taken. Progress has been made, but much remains to be done.

Therefore, it is high time to carry out an evaluation of this computerization on administrative identity. The problem is: does the computerization-administrative identity couple make a good housekeeping? The objective of this work is to assess the efforts made and the results thus obtained with a view to better proposing more appropriate solutions. The implementation of computers and their accessories helps to have speed, quality and quantity on the

administrative services to be rendered to users. Specifically this research aims to give all the key points for the improvement of the computerized management of the administrative identity Madagascar.

For this evaluation, our approach began with a review of the literature on the subject addressed, followed by the development and administration of questionnaires, as well as the survey of stakeholders and users in the form of focus groups. The data processing is done by specific software developed in Windev 17 language, and Postgre SQL, as database. Our analysis is based on the study of the strengths, weaknesses, opportunities, and threats of computerization in the management of administrative identity.

This topic is topical because the context in which public administration finds itself requires recourse to administrative speed, where the digital plurality of users and the quantity of services to be rendered are cumbersome.

This work includes the materials used, the methods adopted and followed, the results obtained and the discussion of the facts.

2. MATERIALS AND METHODS

2.1 Bibliographic study

The administrative and technological characteristics of the works led to a strong bibliographic study. This particular quality, responding to or requesting this theme, was the first criterion. Indeed, different means could be used to do it. Libraries and the Internet facilitated the access to reading these works.

The bibliographic study mainly consists of collections of similar studies carried out by other researchers: books, brochures, publications, articles and manuals via websites or not. For the review to be complete, it critically discusses, identifies methodological problems and shows the research uncertainties [1].

Two types of journals were used for this study, descriptive and integrative journals. Descriptive reviews focus on methodology, while integrative reviews focus on finding common ideas and concepts in the material analyzed [2].

2.2 Observation and resource persons

The administrative staff, working in the field of IT and the administrative identity system, constituted the resource persons of this study. Being professionals in the field, they are adept at managing the functions forming their field.

In addition, the focus-group approach [3], allowed to collect as much information as possible on user satisfaction with the computerization of administrative identity in Madagascar.

On the other hand, the observation of the situation, in which the local administrative identity system finds itself, gave an overview of the mechanism which governs it.

2.3 Collection of information

This stage was constituted of individual interviews during which necessary information, in relation with the objectives, was collected at the level of the interlocutors and the subject studied according to the following three phases:

- Development of the questionnaire:

For the collection of the information, semi-structured interviews with the interlocutors were adopted. It was thus a questionnaire in which the questions were semi-invested in order to gather useful information, the data collected were of qualitative and quantitative nature.

- Sampling :

Sixty interlocutors were surveyed distributed in the administrative services subjects to this study, they were chosen randomly provided they had a relationship with the subject studied, and without taking into account their socio-political-religious affiliation. The main thing was that they could answer the questions.

2.4 Surveys

The survey of the administrative staff and individuals was carried out. The goal was to hear their version of the facts. These interlocutors respectfully answered the questions.

2.5 Data processing and processing of raw information.

Using appropriate tools and within the framework of the study, the raw information obtained were processed and analyzed in relation to the expected objective. In addition, a classification of samples was undertaken in order to better represent the interlocutors according to the administrative and technological characteristics studied.

A specific software was developed, more ergonomic, open, and adapts itself to all supports. This software was developed in WinDev 17 language and with the SQL Server 2000 database. WINDEV is fully adapted to the habits of developers, designers and makes it possible to perform the easiest and most reliable processing as requested. And also, the automatic generation of advanced functionalities allows, on the one hand, to offer a software adapted to the most demanding users, and, on the other hand, to free up the planning of the development team wihich can thus devote itself to the better needs

In addition, the software: Microsoft Word, Microsoft Excel, XLSTAT facilitated the related processing in order to arrange according to the data established plan

For the analysis of the internal and external causes of the relevant facts, the method SWOT (Strengths - Weaknesses - Opportunities - Threats) [4] was adopted. This analysis makes it possible to determine strategies in order to achieve the desired objectives. Internal analysis concerns strengths and weaknesses. External analysis touches on opportunities and threats.

3. RESULTS

The results from this study could be classified into two categories, the first one was qualitative and the second one was quantitative. The data were independent of each other and responded to the request of the theme.

3.1 Qualitative results

3.1.1 Legal frameworks of NICTs

Existing texts govern this new so-called advanced technology, the essentials of which are as follows:

- Laws establishing the general principles of the dematerialization of administrative procedures [5];
- The law relating to the protection of personal data [6];
- The law on electronic signatures [7];
- The law on the fight against cybercrimes [8];

3.1.2 Identity management software in Madagascar

In particular, for civil status, computerization is framed by the resolutions taken at the Conference of Ministers in 2012 in Durban (South Africa) aimed through point 15c to "Adopt appropriate technologies to accelerate the recording of events, management of civil status information and ensuring their protection against natural disasters, civil wars, etc. "[9].

In 2006, Madagascar started the computerization of its civil-status system, with the support of UNICEF within the framework of the EKA or “Ezaka Kopia ho an’ny Ankizy” program. This software was named ECV-INFO. It can manage the declaration of birth, death and marriage at the level of the municipalities and the Municipal Hygiene Offices.

The objective of this computerization was: to speed up the production of copies of civil status documents, to set up an integrated, permanent, secure and statistically usable database, and to allow municipalities to have statistical tables.

Out of 1693 municipalities, only 70 civil-status offices have been computerized. Some municipalities do not have IT equipment or computer products that can be used for statistics.

Since 2004, the six districts of the Urban Commune of Antananarivo and other major cities of Madagascar have benefited from free software. Funding for the development of this software was provided by the International Association of Mayors of French Speaking Countries. Using this software, it is difficult to recover or export data to other tools.

The Japanese Cooperation also supported the Ministry of Public Health to record health data and facilitate their processing.

At the level of some communes, there is still a civil registration software package financed by GIZ, which is used by some civil registration offices in the northern part of the country.

During the evaluation, it was discovered that there are several software packages used for the management of administrative identity in Madagascar. In terms of management of civil-status, there are six software programs, including:

- ECV-INFO supported by UNICEF within the framework of the "Ezaka Kopia ho an'ny Ankizy (EKA)" program;
- Civil-status software provided by the International Association of Mayors of French-Speaking Countries, used by municipalities in seven major cities;
- GESIS, unit in the district health services, supported by JICA (Japan International Cooperation Agency);
- GASIKARA ECV, the production of which was supported by the UNDP (United Nations Development Program);
- ENY software, provided by GIZ (Gesellschaft fur International Zusammenarbeit);

Other than these six officially knoun softwares, several other computerization activities have been undertaken by the communes themselves or with the direct support of local or multinational Non-Governmental Organizations (NGOs). However, the problem is that these software programs do not have the same objectives and the same functionalities. Databases do not have the same structures.

For municipalities that have civil-status processing software, the databases are not unique. They are not as interoperable.

In terms of managing the national identity card, there is a software program called SIG CNI (Integrated System for Managing the National Identity Card), or Integrated System for the Management of the National Identity Card, which is an application developed by the Information Systems Department of the MID(Ministry of the Interior and Decentralization) . This software program is functional in the districts of the prefecture of Antananarivo Renivohitra.

Malagasy passports are already computerized, there is a software program developed by the service provider SEMLEX GROUP [10], in 2007. The latter provides all the necessary materials for the issuance of the passport. It is noted that the passport issued in this country is already biometric.

3.1.3 Use of IT tools in the management of administrative identity

The average duration of the registrations, for the National Identity Card and Passport, was assessed using a computer. The registration of a civil-status fact takes on average 15 minutes, while the National Identity Card taking 10 minutes. The average time for recording a file is 11 minutes.

The use of software helps to speed up the processing of identity documents, including 02 days for the National Identity Card and 05 hours for the Passport; that of civil-status acts or acts is 04 hours.

The wait for the verification and signature of the responsible is often the reason for the extension of the processing time. For some districts, the trip from the administrative district delegate to the district capital for signing takes 02 days, and more during the rainy season.

For manual processing, the average duration for a civil-status fact file is 02 days. The same is true for the passport; while the National Identity card taking 05 days.

The main causes for interrupting or stopping the delivery of administrative identity are: the insufficient number assigned to the administrative identity service; the power cut; computer failures due to the lack of periodic maintenance; computer network problems; the shortage of consumables: ink, paper etc; and the lack of a qualified or trained person to handle the software.

Frequent interruptions, due to breakdowns and stock shortages are often the causes of prolonged processing times, which leads to dissatisfaction among users of the administrative identity service.

During the evaluation, for the management of civil status, 24 municipalities were visited, 5 of which are urban and 19 are rural. 27% practice computerized birth registration; 15% carry out computerized death registration; 24% report computerized marriage registration, 16% agree to computerized divorce registration. Based on these results, it was noted that the use of IT tools is remarkable compared to other fields.

The computerization of the national identity card is in the testing phase in a few pilot districts. Therefore, during the evaluation, there are only five districts which are computerized in terms of National Card Identity management, out of the 13 Districts and 4 Prefectures visited. According to the interview conducted at the Information Systems Department, in the Ministry of Interior and Decentralization, only these five districts have the National Card Identity management application on the whole island, to date. For the issue of National Card Identity, the computerization rate is very low: 7% for the Primata and 4% for the Duplicate.

For passport management, the use of IT tools is very intense. Hardware and software are sufficient and up to date. This is why the processing time of the file and the delivery is very short.

3.1.4 Access to information and interoperability

- Confidentiality and protection of personal data:

New Technology of Information and Communication, has always data collection, manipulation and cross-referencing. The density of human activities in the digital world therefore constitutes a fertile ground for potential

privacy invasions of users. However, this phenomenon must respect the confidentiality and protection of personal data.

All the identity management software, which we observed during the investigation that confidentiality is well kept. The access to the database is strictly regulated. For all these aforementioned software programs, the user marks a step in strengthening the protection of personal data of individuals by limiting their access, strengthening data security.

The software used has user privilege management, which can limit the actions that users can do. This functionality also allows to trace all operations made for each user of the system.

All systems are respected and consider the importance of the protection and confidentiality of users. In addition, for each software program, the developer implements updated technical tools and devices in order to protect personal information from any loss, abuse, alteration or destruction.

- Interoperability:

Until now, the identity management database in Madagascar was not interoperable, and not centralized. For the management of civil status, the databases are disparate, this system therefore has a connection problem because of the multitude of non-interoperable software and does not allow the production of vital statistics.

The ID card management software only runs at the district-level, there is no link with any other system, also, at the central-level, its link with the central or with other systems requires a very complex communication infrastructure.

The passport management database does not yet have a link with any other system outside the Ministry of Public Security, but there is a link between the central and all airports, for the various checks at border levels.

3.1.5 People responsible for the management of the administrative identity

For the management of civil status, the people responsible for its registration at the level of municipalities are: the Deputy Mayor, the Secretary of Civil Status (SEC), and data entry operators. They are supervised by the Head of the Civil Registry Service in the Urban Communes. The number of registrars and operators varies from one to seven, one for rural municipalities and seven for urban municipalities, depending on the volume of work.

Regarding the national identity card, the people responsible for its issuing are the district delegates and their secretary. They are supervised by the service chief of the general Administration, within the district chief [11]. The number of staff in charge of managing the Identity National Card (INC) varies from one to five for the districts.

When it comes to issuing a passport, there are around 20 staff involved in this work. The number of personnel in charge of the control at the International Airport ranges from 15 to 25 depending on the volume of work.

In general, the number of staff is sufficient, but the majority of the employees are weak in IT. In addition, much of the information in the laws is overlooked by the staff, due to insufficient training.

3.2 Quantitative results

3.2.1 Uses of IT tools in the management of civil status events.

Of the 23 municipalities visited during the evaluation: 28% practice computerized birth registration, 16% carry out computerized death registration, 27% report computerized marriage registration, 18% commit computerized divorce registration. Regarding the Identity National Card (INC), 3 out of 10 districts visited are computerized.

3.2.2 Number of computers in the offices visited

Table-1: Number of computers by department visited

Target group	Number of offices having computers	Total number of computers	Average by office
Municipal Hygiene Office	3	4	1
Communes	30	98	3
Basic health center	1	2	2
Hospitals	11	16	1
Court of first instance	2	3	2
Total	47	123	9

3.2.2 Sources of electrical energy from civil registration offices.

Table-2: Sources of electrical energy

Office location	Generator (%)	Jiro sy Rano Malagasy (%)	Solar panel (%)
Rural environment	29	19	85
Urban environment	71	81	15
Total	100	100	100

3.2.3 Computerization of administrative identity

This same assessment was also made in a qualitative manner by computerizing the administrative identity for the 63 offices visited, namely: the technological object, data governance, as well as communication and data exchange. These results are compiled in the following table N ° 7:

Table -3: Result of the qualitative evaluation on computerization:

Headings	Keywords	Assessment rate (%)		
		Bad (%)	**Way (%)**	**Excellent (%)**
Technological object	State of the computerized register	0	100	0
	Technicality of the software used	0	66,66	33,34
	Compliance with design standards and development of software used	0	66,66	33,34
	Technical assistance	66,66	33,34	0
	Software maintenance	0	100	0
	Availability of training and capacity building in ICT	100	0	0
	State of data storage equipment	0	100	0
	Data transmission status	100	0	0
	Security against viral attack	100	0	0
Data governance	Data quality	0	100	0
	Data security	0	100	0
	Confidentiality of data	0	0	100
	Data availability	0	0	100
Communication and data exchange	State of the network infrastructure	0	0	0
	Data integrity	0	0	100

Administrative affaires computerization trends seen promising. The majority of data have good signs.

2.2.4- Administrative staff responsible for the administrative identity

For these same offices mentioned above, the average age and computer skills of the 180 administrative staff were assessed.

Table 4: Average age of administrative staff responsible for managing the administrative identity:

Age range	18 to 30 years old	31 to 40yers old	41 to 50 years old	51 to 60 years old
Number	25	78	41	36

According to this table, the majority of the personnel who manage the administrative identity are under 40 years of age, or 61% of the total.

The following graph shows the percentage distribution of personnel involved in the management of administrative identity, according to their age group

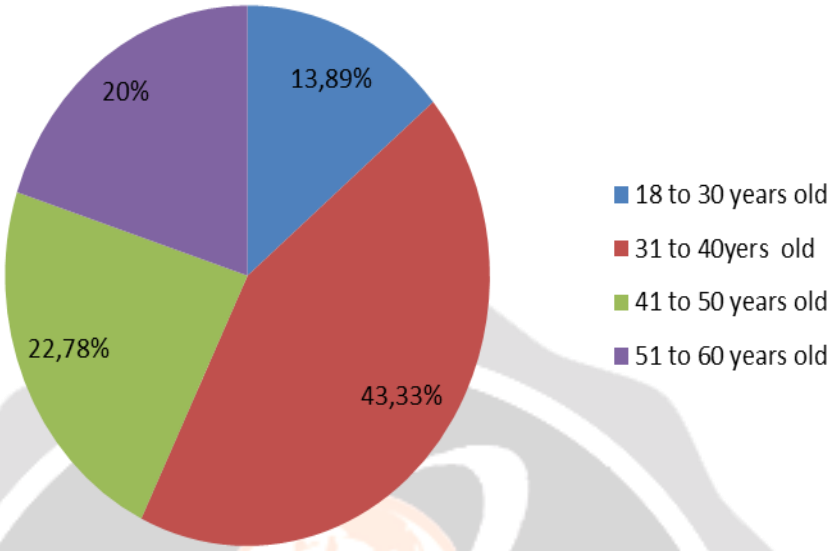

Chart 1: Distribution of staff according to their age group

For the 180 administrative staff surveyed during the evaluation, the following graph shows their qualification in computer skills.

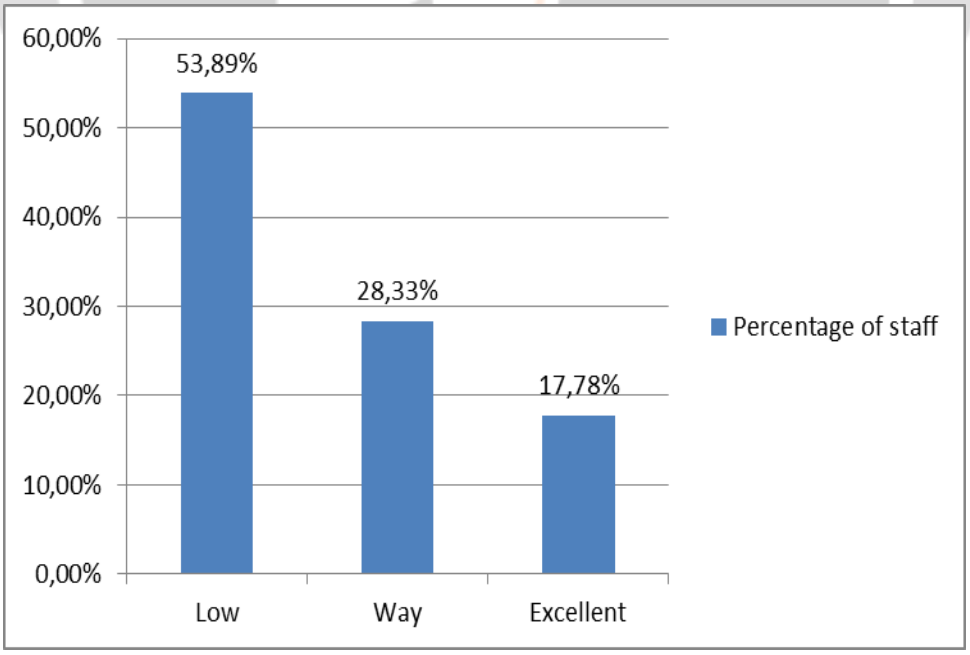

Chart 2: Percentage distribution of staff according to their computer skills

According to this graph, the majority of personnel involved in the management of administrative identity are weak in IT.

The following table summarizes the motivation of the 180 administrative staff involved in the management of administrative identity, for the implementation of new reform in the management of administrative identity, namely: updating the texts concerning this subject , the implementation of new procedures, the design and production of a new unique software, the centralization of databases, as well as the installation of the identifier for all citizens.

Table N ° 5: Motivation of the administrative staff for the implementation of new reform in the management of the administrative identity

Criteriology / Designation	Number of staff and evaluation criteria				
	Not agree at all	Disagree	Neither agree nor disagree	Agree	Totally agree
Text update	**0**	0	37	29	114
Implementation of new procedures	**0**	0	31	57	92
Design and production of new unique software	**0**	0	6	51	123
Centralization of databases	**0**	0	0	12	168
Implementation of the identifier for all Malagasy citizens	**0**	0	14	41	125

According to this table, the personnel involved are very motivating for the reform of the management of administrative identity in Madagascar, through the effective use of New Technology.

2.2.5- Interview with users

In the evaluation, four groups of people (Focus group) were also interviewed in four different districts, including: Antsirabe, Fandriana, Ambositra, Fianarantsoa. The purpose of these interviews is to assess user satisfaction with the current computerization of the administrative identity. The compiled results are presented in the form of the following graph:

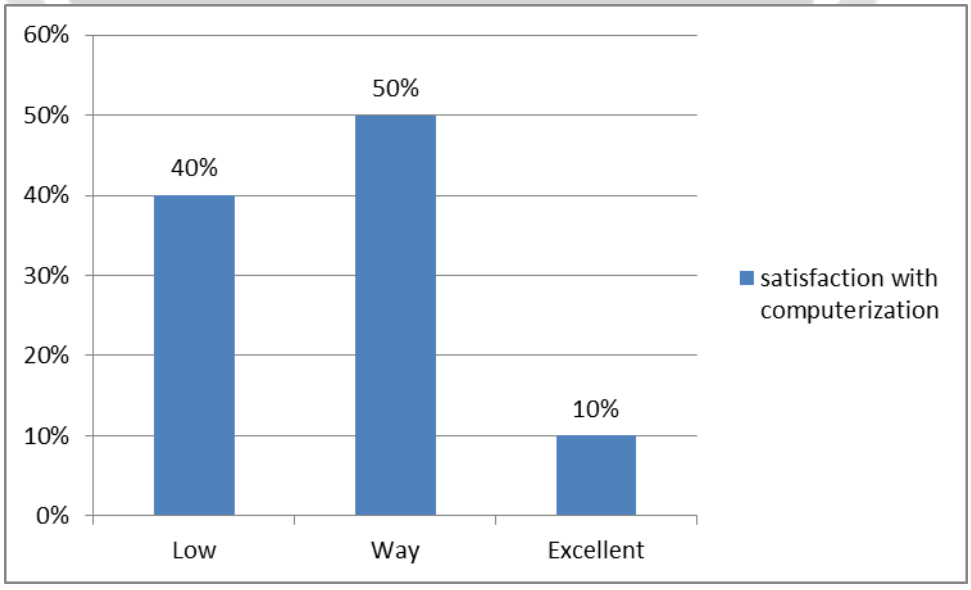

Chart 3: Level of user satisfaction with computerization

We noticed by this graph that the excellent satisfaction is only 10% of the users. The reason is the frequent interruption of the services offered because of load shedding, shortage of computer consumable stocks, as well as the various tools (printed matter, registers, etc.), which often leads to the extension of the processing time for files. This extension causes users to go back and forth to the administrative identity office**.**

On the other hand, the motivation of users, for the implementation of a new reform for the management of administrative identity, namely: new processing procedure, new unique software with the centralization of all databases, as well as the identifier for all citizens, is very remarkable according to the following table:

Table N ° 6: Motivation of users for the implementation of a new reform for the management of administrative identity

Criteriology / Designation	Number of group interviewed and evaluation criteria				
	Not agree at all	Disagree	Neither agree nor disagree	Agree	Totally agree
Text update	**0**	0	0	2	2
Implementation of new procedures	**0**	0	0	1	3
Design and production of new unique software	**0**	0	0	0	4
Centralization of databases	**0**	0	0	0	4
Implementation of the identifier for all Malagasy citizens	**0**	0	0	1	3

4. DISCUSSION

The internal organization of the services, the subject of this study, presents their strengths and weaknesses in terms of the computerization of the administrative identity system. In addition, there are the opportunities and threats arising from external relations. These evaluable facts are the subject of this discussion based on a hypothesis according to which the good quality of the processing of the administrative identity is obtained by computerization of the process.

4.1 Internal organization of the departments visited

4.1.1- Strengths

- Legal texts:

There are texts in force, governing the use of the NICT, which are applicable to the computerization of the civil-status system. They play the role of beacon on the content and the form of an individual file of individuals of major age.

The preventive role played by these texts of high legal quality can reduce irregularities by ill-intentioned people acting against the general interest and the expectations of administrative users.

In fact, these texts serve to increase the quality of the services to be rendered on the administrative identity system because the latter must be delivered in good and due form to holders. The speed, quality and quantity of services provided by NICT increase the performance recorded by the services visited in order to retain users. The texts are not took into account, in this area helping to build a better administrative relationship.

- Control of digital data:

There are measures to control digital civil status data, which is an a posteriori act, but capable of increasing the quality of the services, an approach carried out after the facts.

This control is essential, to such an extent that the traceability of faults can be detected because of the high technology embodied in computers and their accessories. Municipal initiative: Some municipalities take the initiative to ensure the maintenance of IT tools with the means at their disposal. This productive approach allows texts and computers to benefit from better administrative utility.

The dynamic synergy between the texts in force, the competent administrative staff and IT tools, encourage the administrative identity system for the socio-economic development of the country.

4-1-2 Weaknesses

- Non-interoperable software:

Despite the plurality of the software programs developed for processing civil status, many of them are non-interoperable and do not allow the production of related statistics. This technological failure slows down the administrative function expected to be efficient.

Computer accessories play a facilitating role in the operations to be carried out. However, in the event of non-interoperability, the burden falls on the manipulators and users, whose impacts are major [4]. If the statistical function of the software stops, the quantitative and informative data, on operations carried out, are missing, which also makes the assessment difficult.

- Computer consumables depletion:

The inability to manage the stock of computer consumables: ink, paper, etc. is a handicap for administrative services. Indeed, public services are reputed to lack control, surveillance, verification, and monitoring, able to maintain their brand image [5]. The waste of public assets is a fatal error due to the lack of an administrative culture.

- Lack of a capacity building program:

The new information and communication technology, as such, is newly introduced in the administrative spheres of Madagascar. In fact, the administrative technique is constantly evolving [6] in terms of its internal organization, including timetables, staff, materials, resources, etc. in order to have a certain quality and quantity of services to the profile of under the relevant actors, such as: secretary, civil-status officer.

This new technological introduction has some effects on the skills of the administrative staff, particularly in the context of a function requiring high technicality and great ingenuity. However, training while working is a waste of time and budgetary resources. These cofactors weigh heavily on the information of the administrative identity system in Madagascar.

4.2-Influence of the external environment

4.2.1 Opportunities

- Proliferation of IT tools:

Cutting-edge technology is flooding the Malagasy market by leaps and bounds. Its proliferation is rapid, including computers, Internet and mobile technology. The quantity / price ratio of IT tools is affordable today. Learning at home is possible with the technical support of those advanced in this field of computers. The provision, on a personal basis, of IT tools, facilitates the mastery of their manipulation and the quantitative and qualitative progression of the administrative identity system. Learning at home reassures the search for keyboard typing speed requested by the administrative services. As for the use of software, by the managers in the service, it is learned gradually, in a slow and sure way.

- Existence of training centers:

Training in IT at all levels is growing, in only the Malagasy capital. Universities, whether public or private, vocational training centers, are increasing in number. Being a new technology, useful and, attracts young people and the professional world, the race to sell its learning is important.

Regardless of the duration of the training, the acquisition of basic knowledge, in order to self-educate, pushes those interested to rush to these training centers. These initiateds, using the diplomas or certificates obtained, are useful in the administrative field because, even at the level of the job application, computer skills are one of the criteria required by employers.

- Plenty of Internet service providers:

Internet service providers and mobile phone networks are increasing in number. This facilitating role corresponds to the demand of young people looking for work and the administration [12] in Madagascar. The administrative identity system is mainly based on information technology, its mastery comes from training.

The plurality of its suppliers is in favor of the administration, whose technicality is highly demanded, the price / quantity ratio is applied by its suppliers, that is to say that when the number of users increases, the prices decrease and also, time, against obsolescence, heavily relies on technology. It is thus necessary to take advantage of the time or the technology that is sought by users to have more benefit. This marketing tactic is highly applied by these suppliers. Their digital multiplication on the market implies a profit gain [13].

- Renewable energy:

Computer tools operate using electrical energy, the use of which has become increasingly difficult in Madagascar recently. In addition to the soaring cost, load shedding is unbearable, pushing users to find more reassuring ways and means.

Renewable energy is therefore promising in Madagascar. It is developing at the present time, thus giving a smile to the lips of IT players. These new sources of energy can greatly boost IT in the sense that they are respectful of the environment [14].

The couple: renewable energy-IT, can give a chance to the administrative identity system in Madagascar to develop and give satisfaction to the users. This tandem can be perpetuated because the sun shines throughout the year on the scale of the big island. The rubbery, maintenance must be mastered.

4.2.2 Threats

- Insecurity:

The problem of insecurity arises in rural areas where the police are scarce. Thus, the public administration, equipped with high-end computer tools, is the target of armed attacks. This insecurity situation risks making information about the administrative identity system slow.

These attacks, by their political nature, also affect senior administrative officials whose usefulness in administrative modernization is sought more than ever. Thus, computer scientists, working in an environment where socio-administrative disorder is frequent, may suffer from insecurity due to their responsibility, close to IT tools.

- Multiplication and resistance of computer viruses:

The development of computer tools and the resistance of viruses against them are synchronous, risking to think that it is the designers of these tools that develop these viruses for a profit-seeking reason.

Indeed, computer viruses ravage the system in computers. Thus, the administrative identity, especially in Madagascar where anti-viruses are less developed, can be strongly influenced by this attack.

A computer failure causes enormous administrative damage, particularly at the user level. The return to administrative slowness impacts the administration and its dependents.

4-3 Formulation of explanatory hypotheses

This research relates to the analysis of the current computerization of administrative identity. There are therefore several discussions to be made in various aspects. Before formulating the hypotheses, we will ask the following research questions:

- Does the current computerization of the administrative identity in Madagascar give more convincing results?

- Can we manage the administrative identity in Madagascar using the use of NICT?

Based on these two questions, we can formulate the following two explanatory hypotheses:

4-3-1 First hypothesis (H1)

H1: The current computerization is a failure of administrative identity

If we refer to the results of the surveys we have carried out: the databases for the management of the current administrative identity are disparate, non-centralized, and not interoperable with other systems. There is therefore no database real-time data usable for statistical purposes at central level; there has been a multitude of software which is difficult to update; the computerization rate of administrative identity is very low; the IT skills of staff involved in the management of administrative identity is low, where 53.89% are weak in IT; the level of user satisfaction is not convincing (50%).

The computerization of administrative identity in Madagascar is outside the ISO / IEC 27001 standard, which is an international norm for the security of ISO and IEC information systems [15], because of the non-uniformity of software and database insecurity.

Indeed, in practice, the current computerized management of administrative identity does not meet the expectations of users, of personnel involved, and especially for the central state at the statistical level.

In addition, in his work, James Gardner March (1991) [16] confirms the important value of information in the organization. According to this theorist, information makes it possible to choose and make decisions. The existence of disparate databases is a sign of non-flow of information. There is no central database, to be used for statistical purposes.

Furthermore, according to Henri Fayol [17]: “to administrate is to plan”; "Organize", in the strong sense of the term, "constitute" the organization that is the company; it is to command, to allow personnel to fulfill their functions by giving them orders; it is also to coordinate, harmonize the efforts and the work of each in a whole.

Finally, it means controlling, ensuring compliance with established orders and rules. These are the five administrative functions, it is being understood that “govern”, which is to ensure the best functioning of the organization in the essential operations previously mentioned, should not be confused with “administrate”, which is more specifically an a posteriori action. The frequent shortage of stock in IT supplies and consumables indicates that there is no good organization that attacks Henri Fayol's theory.

Indeed, from an empirical and theoretical point of view, the current computerization of the administrative identity in Madagascar has failed.

4-3-2 Second hypothesis (H2)

H2: The administrative identity in Madagascar is manageable by the IT

Remember that in these surveys and interviews, we found that:

Politically, Madagascar has ratified many international agreements. There is no legal obstacle. We already adopted the Law n ° 2018-027, relating to the civil status, of February 08, 2019, which already stipulated in its chapter 5, the design of a new information system in the management of civil-status.

In addition, there are many opportunities that can help with the establishment of a new administrative identity management information system, namely: the existence of high school that can train technicians and senior civil servants, the possibility of exploiting renewable energy, as well as the motivation of personnel involved in the use of the new system.

From these empirical results cited above, we can say in practice that we can introduce IT in the management of administrative identity in Madagascar.

If we refer to theory, when we talk about IT, it is synonymous with innovation. It is therefore the introduction of innovation in the context of the management of administrative identity. This brings us to confront Schumpeter's theory of innovation. For this theorist: "The invention is the production of new knowledge (ideas). Innovation is a new device, product or process actually sold or implemented. Dissemination consists of the adoption of this technical device on a large scale. "[15]. In his work, he talks about the three principles of innovation: invention is obtained by starting from the materialization of ideas to transform them into creation, in order to lead to production; innovation consists of the implementation of mechanisms for the product or process to be launched on the market; the distribution is responsible for ventilating the technical system on a large scale to guarantee massive production.

Starting from the ideas of this author, the initiative to set up a new modernized identity management system is already with the manager, who is approved by the existence of the various texts and especially the adoption of the new Law n ° 2018-027, relating to civil status. Madagascar has a lot of technical devices that can be exploited, namely the opportunities mentioned above. All this confirms the possibility of managing the administrative identity in Madagascar through the use of IT.

5-RECOMMENDATIONS

According to the existing texts mentioned above, there are no legal procedural or social obstacles to universal registration and the use of identification systems. However, to master identity management, you must write a new manual procedure. . Moreover, the National Identity Card, at the level of all organizations, takes especially measures to the treatment of citizens, who have duplicate INC and, live in the most remote areas.

In addition, the application of the measures established by the law in a consistent manner at a practical level is very important. For the success of this application, a few factors are necessary, namely: educating citizens about the changes to be implemented; the rigor of its application by the leaders.

It is necessary to set up a computerized administrative identity system with a central system and to assign a unique identification number usable throughout the sector, for all Malagasy citizens.

The interoperability of this system with related services (Domains, Tax Center, etc.) will give multiple stakeholders the opportunity to take advantage of the benefits derived from the identification system. This interoperability is already provided in Article 128 of the Law in 2018, that a computerized and interoperable system will allow "the delivery of copies of authentic instruments throughout the national territory".

Encryption must be used when sending or transferring data via new information and communication technologies, and all operations carried out in the computerized identity system will be traceable. This is a very good practice. The maintenance of a register demonstrating precisely any processing of personal data is, in Europe, seen more and more as a practice of good governance.

To guarantee the authenticity of the documents and documents issued, secure papers must be used, against illegal reproduction and false documents, such as:

• The security watermark, of which any attempt to scan alters the uniform display , making its reproduction grossly impaired;
• The mention “PHOTOCOPY” which remains invisible to the naked eye on the original document and which systematically appears on photocopies;
• Micro letters invisible to the naked-eye and not reproducible by photocopy or scanner, containing specific information;
• Ink invisible to the naked-eye, only Ultraviolet light can reveal it.

6-CONCLUSION

Efforts are already underway to meet the aspirations of the general population and those of older ages in Madagascar. The gradual regression of globalization in favor of the computerization of the administrative identity system is a major proof of administrative modernization at the national level. Various resources have been implemented. Advanced technologies and administrative personnel are put in charge of identity without the current phase of the evaluation; efforts are thus made and informative in this area.

Efforts are already underway to satisfy the understandings and aspirations of the general population and those of older ages in Madagascar on improving or even overhauling public administration. The gradual evolution of the globalization of the computerization of the administrative identity system is major proof of administrative modernization on a national scale. Various resources have been used and, above all, advanced technologies and administrative staff capable of handling identity documents well. In the current phase of the evaluation, efforts are being made in this area.

To improve quantitatively and qualitatively this identity situation, the legal framework governing the NICT applied to the administrative identity system, deserves a reform according to Schumpeter "Growth is born from the destruction of the old organization by innovation" [15].The centralization of the civil-status information system and the allocation of a unique identification number, usable in all sectors and for Malagasy sub-citizens, are essential. The uniqueness, throughout Madagascar, of the computer system relating to administrative identity, which is combined with the computerization of civil-status offices, is advisable.

This set requires securing civil-status registers and the interoperability of the database of this identity system.

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