



Protection and Exchange of Personal Data on the Web in the Registry of Civil Status

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Abstract

Personal data are widely consumed by the central civil registry using interconnection systems as web services and by other institutions that use the data to deliver services. Therefore, the risks of misuse of personal data are major concerns, thus the need for protection and security by improving personal data reliability. This paper analyzes the links between the Central Registry of Civil Status and other institutions and the security of the links by providing data protection and security during communication with web services. This paper emphasizes privacy in information technology and explores modern challenges for every legal entity and natural person. The protection of personal data in related institutions is discussed. The case study concerns the interconnections between the Central Registry of Civil Status in the Republic of Kosovo and other systems in data exchange institutions, such as the modern part of e-government. For data collection, a questionnaire was administered at the institution responsible for the central civil registry to evaluate the protection of personal data and the connection with other institutions from which such personal data originate and are consumed. This paper has also studied the level of applying cryptographic security methods to protect personal data.

Keywords:

Information Technology;
Personal Data;
Cryptographic Methods;
Web Services;
Central Civil Registry.

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1- Introduction

This paper aims to address the sensitivity of personal data and privacy and explore the significant role of the person responsible for personal data protection within the responsible institutions in the Republic of Kosovo to recommend encryption and decryption methods in compliance with the law on protection of personal data and cryptographic systems. Therefore, since the legal and monitoring responsibility for the protection of personal data and privacy in the Republic of Kosovo is the institution Agency for Information and Privacy, the need or almost necessary to use the interconnection with inter-institutional systems using web systems services for data exchange, but given the law on Personal Data Protection that personal data during the exchange through computer networks in communication through the field of Information Technology must be considered encrypted with encryption under applicable law, in order for data to be protected, always to ensure that during the transfer the data is incomprehensible while being decoded at the secured destination or where the purpose is to send the data from the web services to the relevant institutions [1]. Also, using the cryptography method in information and communication technology known as the algorithm for encryption and decryption as a protocol for hiding data during data transfer or information during the exchange to be personal data protected and reliable [2, 3]. Nowadays, ICT systems face many threats and an increasing need to implement cryptography protocols to ensure the security, reliability, and protection of personal data [4].

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1-1- Comparison of Data Entry and Web Service

Depending on how many personal data fields should be filled, it takes approximately 1 minute or 60 seconds for a person to enter personal data into the system. This is while if web services are used, this service is provided at approximately 1 mile per second. Thus, besides the speed of entering personal data into a website, the accuracy of personal data is also important because providing wrong or insufficient information can impede or cancel the whole process. Hence, using web services ensures both the speed and accuracy of personal data, in addition to data protection and security thanks to the use of highly-precision security algorithms.

1-2- Misuse of Personal Data and Interconnection with Other Data

Since a substantial volume of data circulates through computer networks, some of these data are sensitive and protected by ICT regulations and systems. Theft through communication from computer networks enables criminals to access other information, such as addresses, personal documents, bank accounts, and property transactions, by linking them to personal data through personal identity or ID [5].

If the perpetrators manage to secure personal data and obtain other relevant data and then link all other data to that personal data, they can create a database dataset or "data warehouse." The collected data can be exploited by linking all other data to personal data via the personal number ID, which is the primary key or primary key with other data (See Figure 1) [6]. Therefore, if other data can be provided, such as addresses, bank and property transactions, which connect the personal number with other data, such as:

- Address data or even previous changes;
- Bank details for banking transactions, personal accounts;
- Ownership data Ownership information;
- Data on business ownership by ownership.

Therefore, data thieves pose a risk to the identity as they can misuse these data by selling them on the black market or publishing them for benefits that conflict with the cybercrime neighborhood and the neighborhood for the theft of personal data [7].

From an early age, the need to secure data using encryption and decryption protocols for data, especially data that are not to be published and are protected by applicable laws. Because the misuse of multimedia data such as news that is public data is not that, there is an interest in misuse as these are already for the public [8].

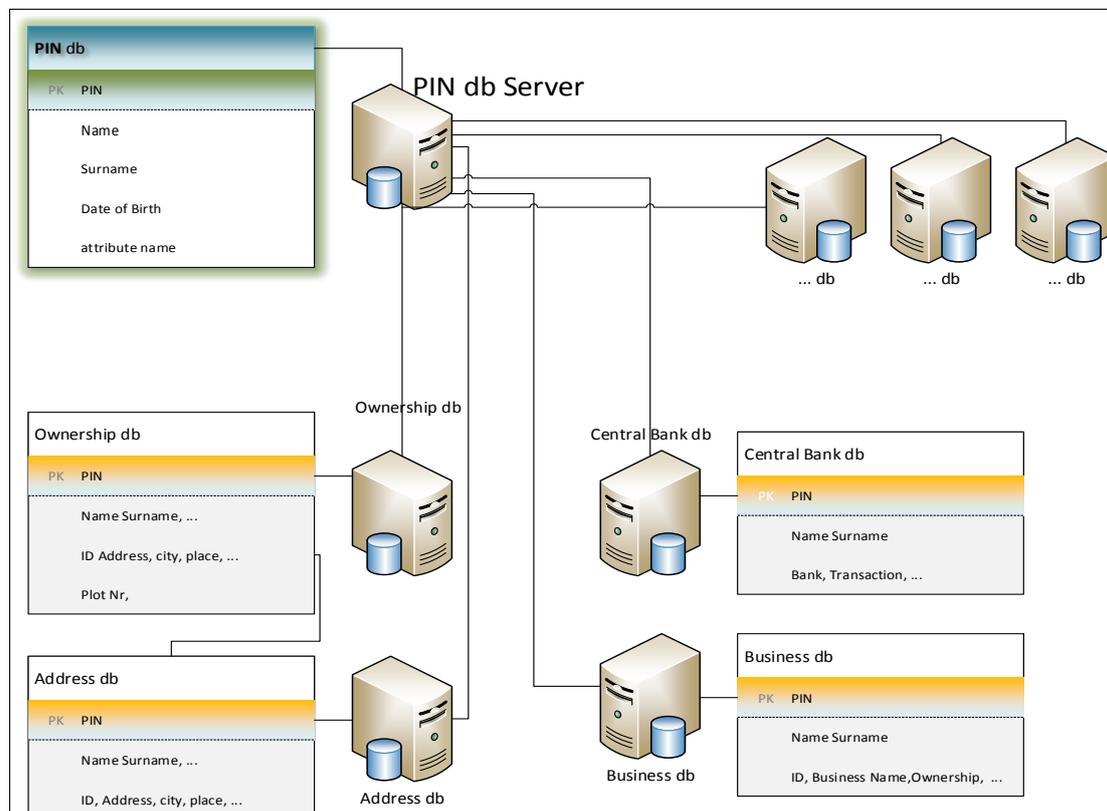


Figure 1. Example of linking other databases to personal database

2- Institutions that Manage Personal Data

In the Republic of Kosovo, mainly three state institutions, including ARC, AIP, and ASHI, are responsible for personal data protection, storage, management, security, and exchange. Each institution has the mandates and responsibilities defined by law, providing the opportunity for quality services that are modern and functional in e-government [9]. In the following, we will get acquainted with each of these institutions, their missions and visions, and the services they provide [10].

2-1- Information Society Agency

The Information Society Agency is a state institution in the Republic of Kosovo acting as the main central institution under the Government of Kosovo. Its main activity is in the development and maintenance management of the field of information technology starting from the government computer network, state domain for users of institutions, government e-mail management, e-government, administration, state data center maintenance, and administration of systems for all institutions of Kosovo. Also, with the introduction of the GG platform or government getaway, which is in centralized service of services for citizens, businesses for services with high levels of security and efficient quality in e-government.

Leads in the management and coordination of government processes and strategies at the central and local levels for e-government, reforming the administrative processes for a more functional and secure government by adapting to the needs of institutions for services to citizens and businesses for governance modern functional digital. For the advancement in the IT field, ASHI cooperates with all governmental and local institutions working in inter-institutional working groups to implement strategies and action plans and monitor the implementation of electro-technical governance. Continuously promotes e-government for efficient and quality services. Engages in setting standards by creating guidelines and regulations for the use of hardware and software and cooperates with other institutions to standardize computer systems for public administration for all government institutions in the Republic of Kosovo.

Participates in national and international committees attending e-government events, exhibitions, and related topics with implementing the latest IT security standards. Manages reports for monitoring, reporting, analysis, studies, presentations, conferences, seminars, and pieces of training inside and outside Kosovo, all in the field of IT, and manages and monitors the budget according to plans and scheduling [11].

2-1-1- E-Government

ASHI has the directorate of e-government development that aims to advance the systems that serve the citizens and other parties receiving state services by drafting policies and regulations for the E-government following the standards of the time. Coordinates with the central and local government initiatives to draft e-government strategy and long-term action plan. Coordinates with all relevant government institutions by monitoring the implementation according to plans and strategy for e-government, cooperates with government institutions for E-government in these areas according to the needs for electronic systems, system security, databases. Identifies the need for development projects for government institutions in the field of e-government, manages and oversees the protection of intellectual property and rights to state-owned databases and software.

Assists in accessing electronic public information for quality and efficiency. Supports and informs about electronic services, through the contact center, in the field of services: G2G, G2C and G2B [12-14]. Promotes government products as well as documentation for the implementation of the action plan and IT infrastructure and electronic services. Provides protection of personal data in electronic form, according to applicable law [15]. E-government connects administration with IT systems to create opportunities and provide better, secure, fast, and available public services at all times. It also improves services, provides efficiency, strengthens accountability, increases transparency, and improves governance efficiency in the administration.

E-government has multiple advantages: Social benefits could include the modernization of public administration, health, education, justice, security, business development, trade development, agriculture development, budget increase, growth of democracy, cultural development, scientific research, and enabling the generation of various statistics, etc. ASHI offers these opportunities as the entire territory of the Republic of Kosovo is spread the telecommunication system of information technology and connects all institutions, both central and local [16]. ASHI has connected many different institutional buildings to the government network, enabling the provision of electronic services to citizens, businesses, and the administration. ASHI infrastructure of the state network consists of microwave, optical, Wi-Fi, and VPN network. Also, through this network, the VoIP telephony system is enabled.

The Information Society Agency planning has realized and constructed the State Data Center (SDC), which is used as a joint state "electronic repository" administration, dissemination, and storage of electronic data. ASHI in this center, AHCS, in addition to the physical space it possesses available for the deployment of resources, has also installed hardware and software, but also enabling other institutions to deploy IT hardware and equipment. Services such as "Cloud" also aim to reduce costs in the purchase of hardware resources, facilitate the interoperability (interoperability) of different systems, increase the efficiency of electronic services and provide higher security of electronic data [17, 18].

2-2- Information and Privacy Agency

The Agency for Information and Privacy has the mandate and responsibility for controlling and monitoring each institution that is in implementation with the Law on Personal Data Protection, respectively, according to Law No. 06/L-082, Law on Personal Data Protection. This agency has independence and ensures that it strictly implements the provisions and the Law on Personal Data Protection by keeping the register of the file system as defined by law.

This agency has the mandate and ensures that the internal implementation of the law's provisions always maintains the file system's register as defined by law. As in other developed countries in the Republic of Kosovo, the right to protection of personal data and privacy is a right guaranteed by the Constitution and the Law on Personal Data Protection, respectively by law: Law No. 03/L-172 on Personal Data Protection.

This right guaranteed by Article 36 of the Constitution of the Republic of Kosovo includes respect for private and family life, inviolability of the home, confidentiality of correspondence, telephone, and other communications, and protection of personal data. Also, the direct implementation of international agreements and instruments that guarantee human rights and freedoms defined by Article 22 of the Constitution of the Republic of Kosovo, such as:

- Universal Declaration of Human Rights;
- European Convention for the Protection of Human Rights and Fundamental Freedoms;
- Protocols;

Based on Article 53 of the Constitution of the Republic of Kosovo, the European Court of Human Rights court decisions is directly applicable in the Republic of Kosovo. European conventions and directives that regulate the field of data protection and privacy are:

- Convention 108/ EC and additional protocols (for the protection of individuals concerning the automatic processing of personal data);
- Directive 95/46/EC;
- Directive 2002/58/EC (e-privacy and electronic communications);

Since 2010 in the Republic of Kosovo, respectively in the Assembly of Kosovo, the Law on Personal Data Protection (03 / L-172) has been approved, which defines the rights, responsibilities, principles, and measures for the protection of personal data and establishes the institution that is responsible for the oversight and legitimacy of personal data processing [19].

2-3- Civil Registration Agency

The Civil Registration Agency was established on February 14, 2013, with great duty and responsibility to better serve the citizens in civil status and other relevant areas. This agency was established within the Ministry of Internal Affairs of Kosovo. This Agency complies with the law and acts according to the basic principles defined by the Law on Civil Service, with an organization and a structure regulated by the laws set by the Minister of MIA. The agency is headed by the General Director, who for the management, coordination, or administration of the affairs and employees of the Agency, responding directly to the Minister of MIA according to the hierarchy [20, 21].

Regardless of its structure, one of the many duties and responsibilities of this agency, in particular, is the administration, supervision, and maintenance of the database, among them, administering and managing the Central Registry of Civil Status according to the law on Civil Status, cooperating simultaneously with local and international authorities on relevant issues [22].

The Civil Registration Agency, in fact, also practices special measures which guarantee the protection, security, and confidentiality of citizens' personal data when applying, personalizing, or issuing personal documents to citizens.

2-3-1- Civil Status Sector

This sector is under the hierarchy of the Department of Civil Status in ARC. This sector manages this department's relevant processes and procedures and the Central Registry of Civil Status. This register also contains the part of family rights, regulating all processes and procedures for this Register.

As part of the political processes that Kosovo has gone through in the former Socialist Federal Republic of Yugoslavia, personal data has not been given importance, so after the war, unifying and centralizing this register has faced many challenges to this day. Therefore, the most modern advancement of the Central Civil Registry has been achieved by unifying and harmonizing domestic legal provisions with rules from international conventions. Given the geography of our country and the intention to be part of the European Union, always with the claim to be as close as possible, it is unified and harmonized legal provisions in the field of civil registration and family rights according to European legislation [23].

A part of the human rights defined by international documents, and international and regional conventions, in the field of civil registration and family rights for this branch of law should be taught, implemented, developed, and advanced by all experts in this field, especially by the competent state institutions and the theory of law. As part of the European legal system, in certain cases that the justice institutions of our state will decide, we will be objects of treatment by the institutions of international justice, such as the European Court of Human Rights, since finally, we need a genuine and efficient justice also from the directives of the European Union [24].

2-3-2- Civil Registration and Family Rights

As one of the oldest branches of civil law of the legal justice systems of the states is the Civil Registry and family rights. As a set of legal rules, such as those of international character, internal legal sources, as a branch of justice, it regulates the relations of people, the relations between them, then the rights and obligations. Civil registration, family rights, and legal regulation have been made possible through legal provisions of the state's legal system, while compliance with these provisions is ensured by enforcing concrete sanctions according to this branch of justice.

Civil registration and family rights can be defined as the law of states, which regulates the relations between people, their rights and obligations, and the legal and civil consequences between people at the national and international levels. These relations and relationships between people are old, while the rules of law have been developed and advanced with the very development and advancement of science in general. The notion of civil registration is a common name for all actions performed by citizens according to legal provisions, depending on the type always registering them in state registers. This is while family rights are all those rights guaranteed by international acts and national laws, which after being registered, create legal effects and become facts for the realization of the rights of family members. Thus, the right to civil registration and family rights is a set of processes that determine citizens' civil registration rights and the obligations of state institutions for their identification and protection. In scientific terms, life events and their recording are conditioned by biological, social, and vital factors.

Civil registration, in addition to the legal form defined by applicable laws, is also an event in the outside world that records all vital facts, biological and other events for humans; birth registration, marriage, death, and the rights of other citizens. Therefore all these are registered in the Central Civil Registry. Specific actions are not allowed in the case of individuals with specific mental or spiritual disabilities, reduced mental abilities, or other addictions or age. This is done to protect the rights of other parties or general social interests. As for persons who are minors, you are limited to some rights that adults enjoy, but they can be accompanied by adults, supervised, or accompanied by them.

Referring to the Charter of Fundamental Rights of the European Union, the protection of personal data means that "everyone has the right to the protection of their data; such data must be processed honestly for the purposes specified in the consent of the person in question or in any other legal way, determined by law, everyone has the right to be given access to the collected data which speak of the right to their correction "; "Observance of these rules is subject to the supervision of an independent body" [25].

2-3-3- Civil Registration

Civil registration is a basic part of the civil rights of citizens, which deals with the registration of data of individuals and their personnel in personal documents, and their maintenance by state institutions defined by law. Civil registration is a common name for the registration of vital facts, such as birth registration, citizenship registration, marriage registration, marriage registration, divorce registration, birth registration of children of persons who have registered marriage and those who have registered have not registered the marriage, registration of recognition of the child for theirs by the parents who have not registered the marriage but who declare that the child is theirs, registration of the adopted child, registration of the guardian of the child, registration of the fact of death, registration of decisions of the competent bodies by which, depending on the law, these facts have been changed or corrected, registration of some of these facts in the identity card, registration of some of these facts in the passport, registration of some of these facts in the driver's license.

Registration is the recording or recording of all biological or life facts or events of people from the state in which these facts occur in the registers created by the state by sanctioning them by law. The civil census is consistently adorable for any event that occurs, permanent, mandatory, and general population conditioned by the laws of states and international conventions. In addition to the primary purpose of creating legal documents, the state uses civil registration records as the main source of vital statistics and voting rights. The registration of citizens by the competent institutions of the state where the event occurred is a domestic and international legal obligation.

2-3-4- Civil Status

Civil status is part of the civil rights of citizens that determines the individual's position with personal data after recording his facts in civil registers. For example, a child or adult who has the legal opportunity to apply for a civil registration document to obtain (passport - identity card, driver's license and whether he/she can get married and register

that marriage and many other services.), then the presentation of his marital status single, married, divorced, or widowed. Since the end of the war in Kosovo, at the time of the UNMIK (United Nations) government in Kosovo, civil registration has indicated application services for personal documents, such as identity cards and passports. In contrast, civil status services have dealt with the registration of facts occurring to citizens (birth, marriage, death.).

The right to civil registration and family rights are all facts and events of civil registration, documents that derive from the right to civil registration, family relations, protection of these rights concerning state and international institutions, and the set of procedural rules for the realization of these rights. After these events, services for possession of documents other than personal data derived from the Central Registry of Civil Status are applied.

3- Communication of Data with Security Methods

As mentioned above, to ensure that personal data or information is not misused during communication, cryptography security protocols or IT protocols for encryption and decryption, or using ready-made protocols for communication with HTTPS should be used in HTTP protocol locations. Figure 2 shows clients' communication with secure access through Internet access with HTTPS protocol [26].

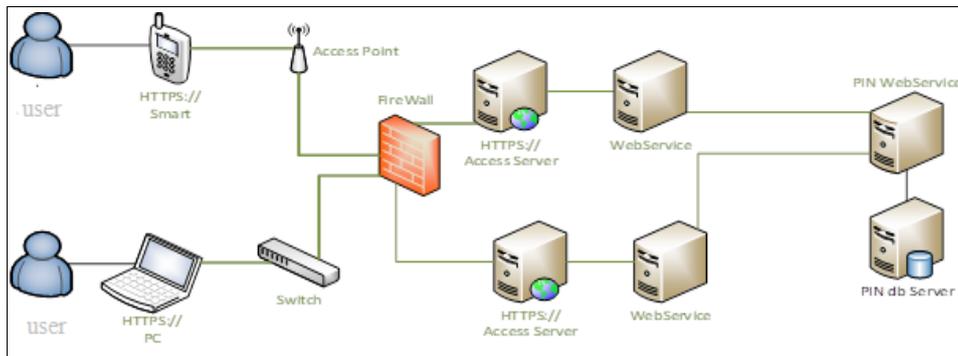


Figure 2. Use of systems published on the Internet using systems with HTTPS security protocols

In addition to the need for clients to have direct access to personal data systems, it is sometimes necessary for systems to exchange these data. There are many examples of using personal data daily, including the communication between the systems in state institutions in the Republic of Kosovo, such as TAK, KBRA, QAK, and KSB.

All these institutions, due to the need for personal data, use Web Service systems by calling the data from the Civil Registry database to the Civil Registration Agency within the Ministry of Internal Affairs, but using the cooperation agreements and defining the standards of SOP communication between institutions and using Information Technology systems for the secure exchange of personal data always under the law: LAW NO. 06/L-082 on Personal Data Protection and recommendation from the Agency for Information and Privacy in the Republic of Kosovo.

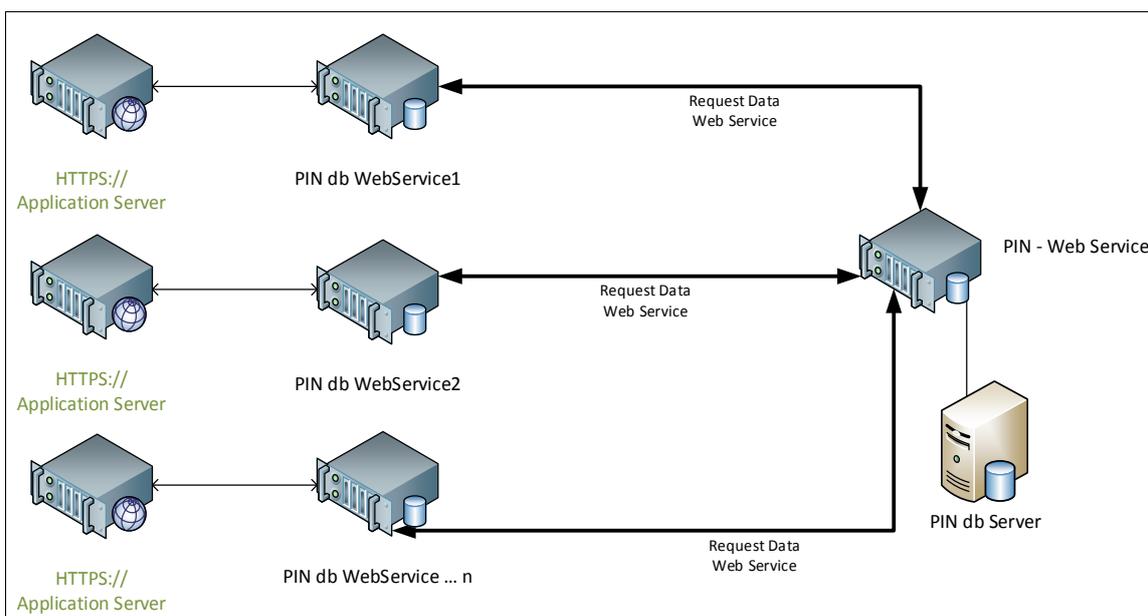


Figure 3. Use of Web Services by consuming personal data from the Civil Status Database, always using security algorithms with HTTPS protocols

Many state systems use the main personal database or any liaison database for communication with other institutions working in full compliance with the laws and regulations of the Agency for Information and Privacy and the Republic of Kosovo's law on data protection. Also, using modern methods of Information Technology such as Web Services, so that there are no errors when registering personal data and do not waste time entering personal data about people in their respective systems.

3-1- Interoperability Platform in the Government of Kosovo

After many challenges of institutions in the Republic of Kosovo, the provision of services has been previously decentralized, and the attempts are continuing. The Government of Kosovo has created a unique centralized platform to provide services to citizens and businesses by addressing a place to give online or e-government services, thus creating the interpretability platform.

3-1-1- Electronic Services on the Interpretability Platform

In the Interpretability platform, the electronic services are divided according to the task of performing the function assigned to the electronic service, each of which has content with different elements for the stakeholders. A data provider for performing recovery operates with the other system according to the functions defined for the process, accepting requests or even data as needed by the parties. According to this supplement, customer service can also be a system such as (Portal, ERP, GOV, System), arranging according to agreements for data exchange as for consumption or acceptance of data. For the selection criteria of the electronic service, Table 1 are the communication processes between the parties for the exchange of the required data [27]. Willingness to implement the electronic service from the Interpretability platform:

- The end system is ready to connect;
- The process is known;
- There is existing documentation.

Table 1. Presentation of the communication of the parties for the exchange of the requested data

An electronic communication between two or more parties, which exchange the required data			
<ul style="list-style-type: none"> • Push ○ Sending data to Government ○ Responses ○ Electronic ○ On paper • Examples ○ Income tax ○ Pension report ○ Updates of Gov. systems 	<ul style="list-style-type: none"> Pull • Getting data from Government • Results rendered on portal • Examples ○ Traffic ticket ○ Paid taxes ○ Property owners ○ My companies ○ Social Security Status 	<ul style="list-style-type: none"> Security • Digital signatures • Privacy protection • Encryption Authentication and Authorization • Level of authentication • Unique user identifiers 	<ul style="list-style-type: none"> Other • e-Forms • Payments • Composed Service • System to System communication • Notifications

In the Interpretability platform is the possibility of registration of citizens or businesses and other parties for the provision of electronic services from this platform.

3-2- Research Questions

In order to achieve the purpose of the paper, the research methodology for the main institutions related to the work for the protection and security of personal data according to the laws and field of activity was used. The research part mainly uses research tasks with the questionnaire method in the three main public institutions related to personal data, such as ARC, AIP, and ASHI. Knowing that each has the role of mandate, responsibility, and importance, controls and inspections are defined for each Agency according to the law. Therefore, the request to consume personal data from the Central Civil Registry is necessary for public and even private institutions. Therefore, the questionnaires were created and sent requesting information, statistical data for legal bases, and statistics for achieving results.

3-3- Results from the Questionnaire

The following are the results from the questionnaire as well as the research from the Annual Reports by institutions. Therefore, a questionnaire was created for the three main institutions that are related to personal data to present information on how important and useful the data are for other institutions. The questions addressed to the legislative institution for the protection of personal data, respectively the Agency for Information and Privacy, show the following results:

1. What legal basis allows and enables the exchange of personal data from the Central Registry of Civil Status?

AIP considers ARC a controller of personal data. This legal rule applies to every controller for public and private institutions that process personal data monitored and supervised by AIP. While according to ARC, the legal basis for protecting personal data is: LAW No. 04/L-003, Law on Civil Status and LAW NO. 06/L-082, For the Protection of Personal Data, while for the exchange of personal data, the memoranda and understanding between the institutions for the exchange of personal data and the SOP were used. While according to ASHI, the Interoperability platform in the Government of Kosovo is used as the legal basis for the protection of personal data for the exchange of personal data.

2. Is the Information and Privacy Agency in line with the directives and integrations with the General Data Protection Regulation (EU GDPR) in legal and functional executive terms?

With the entry into force of Law no. 06 / L-082 on Personal Data Protection in March 2019 AIP exercises full activity and in accordance with (GDPR-EU) the General Regulation of EU Data Protection by adapting it to the law on Personal Data Protection of Personal Data.

3. Are there cases of misuse of citizens' personal data in the Republic of Kosovo?

AIP has a legal basis and has a permanent mission for the Protection of Personal Data in the Republic of Kosovo. Citizens complain to the AIP about the violations committed against them in the Personal Data, and the AIP ex officio authorizes and competencies to review all complaints following the law on personal data protection/

4. Are there cases of misuse of the personal data of foreign nationals?

AIP has not identified any cases of any form of complaint or denunciation by foreign nationals for personal data violations.

5. Do you have requests for cooperation with other institutions or advice to institutions for personal data protection according to public or private institutions?

In response AIP announces that there are obligations to provide legal advice, opinions and recommendations are on a daily basis to facilitate the processing of personal data for public or even private institutions regarding the legal processing of personal data for citizens, in order to avoid cases of illegal processing. This practice of AIP affects the reduction of the number of citizens' complaints, because it is practiced as a pro-active approach of AIP to serve as personal data controllers as advisors in the process of personal data processing.

6. Do you have inspections or controls for institutions or businesses for the misuse of personal data?

AIP Ex officio, but also according to complaints, AIP conducts inspections and controls on public institutions and private sector business organizations, to ensure that they are taking security measures, provided by law, that personal data of citizens are processed according to legal criteria.

7. Are there cases of punishment for misuse of personal data by institutions or businesses?

AIP until the end of June 2016, through inspections conducted by state supervisors, has encountered excesses of the purpose of processing personal data or their illegal processing, has filed a lawsuit in the competent court against the designated personal data controller.

There have been cases of punishment of some economic operators (controlling entities), who through court proceedings, have been punished with monetary measures as provided by the relevant law, for exceeding the purpose of processing, then, for failure to take security measures to guarantee the personal data of citizens' personal data subjects and disregard for AIP advice and recommendations. From June 2016 until now or in the selection of the commissioner by the Assembly of the Republic of Kosovo AIP in absentia has not had the legal right to conduct inspections and controls.

8. What are the most common cases of complaints addressed to you? What is the number of complaints by years?

The most frequent cases of violations against personal data of citizens are related to direct marketing, unauthorized disclosure of personal data, unauthorized disclosure of sensitive personal data, processing of biometric data, processing of data without the consent of the subject, processing of personal data through social networks, as well as inaccurate data processing (Table 2 and Figure 4).

Table 2. Agency Presentation of the trend of AIP complaints by year in the Civil Registration Agency by questionnaire

Complaints by years							
2012	2013	2014	2015	2016	2017	2018	2019
16	58	123	131	120	78	42	48

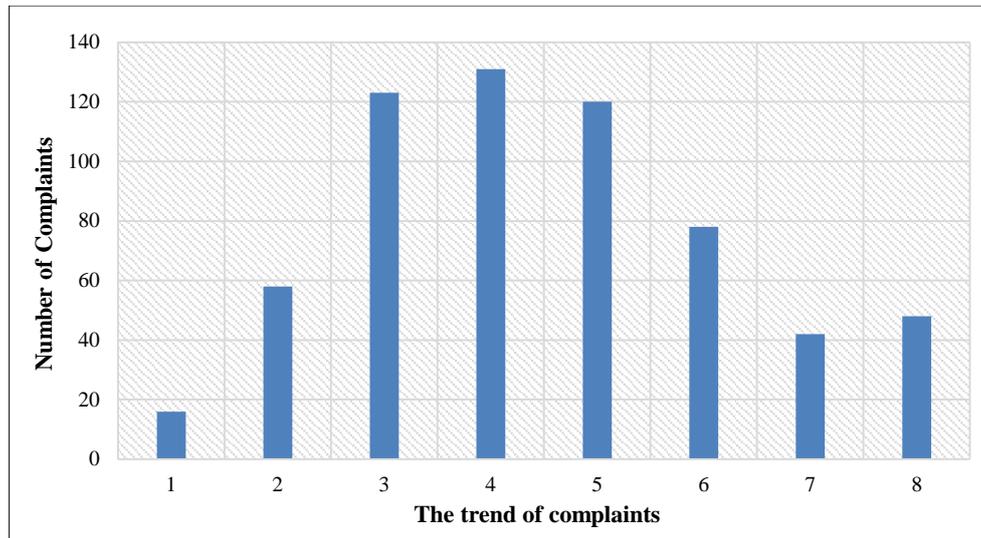


Figure 4. Graphical presentation of the trend of complaints by years in AIP

9. *What are the current ways or systems or applications for the exchange of personal data from the Central Civil Registry?*

Since before the implementation of the Interoperability platform by ARC, web services were used for the exchange of personal data, while with the implementation of this platform by ASHI, web services are still used but with security levels with encryption and decryption, creating packages according to the parameters for the parties from the memorandums of understanding.

10. *Is the manner or method of exchanging personal data from the Central Registry of Civil Status with other institutions defined, and what are they?*

According to ARC, this platform for exchanging all personal data has moved to the ASHI platform. In contrast, ASHI used a Package with parameters for institutions always implementing security levels.

11. *What is the security during the exchange of personal data from the Central Civil Registry?*

According to ARC, this platform has completely passed to the ASHI platform. At the same time, ASHI uses encryption and decryption security levels from the .NET framework.

12. *How many institutions consume personal data from the Central Civil Registry? What are these institutions?*

According to ARC, this personal data exchange platform has all been transferred to the ASHI platform, while in the past, there were about 52 institutions that consumed personal data. While in ASHI, about 25 institutions consume personal data, while there are different packages of data that they consume for the institutions.

13. *What parameters are most used by institutions to exchange personal data?*

According to ARC, this platform for exchanging all personal data has moved to the ASHI platform. Whereas in ASHI, different institutions use three packages with personal data.

14. *What is the statistical number of personal data exchanges that is consumed by institutions divided into Months or Years?*

According to ARC, this platform for exchanging all personal data has moved to the ASHI platform. Whereas in ASHI, there are about 3.4 million records with personal data that different institutions consume.

15. *What is the consumption time for a transaction of personal data from the Central Registry of Civil Status by institutions?*

According to ARC, this platform for exchanging all personal data has moved to the ASHI platform. While in ASHI, it is approximately 1 millisecond to consume personal data for one service.

16. *How satisfied are the other institutions receiving personal data from the Central Civil Registry through exchange?*

According to ARC, there is no feedback from institutions that consume personal data. Likewise, in ASHI, there is no platform for providing information or feedback on personal data consumption.

17. Is the system for certificate services published online, what is the level of access to end users, and how many requests have been made since implementation?

According to the ARC, there is no publication of online services, only that the municipalities have machines for civil status certificate services.

3-4- Research from Reports of Institutions

Regarding the annual report of AIP, various results have been obtained for opinions, complaints, and even other statistics. According to the AIP report, statistics are presented by the advice from the AIP within the responsibilities in support of various institutions, providing advice on Personal Data Protection by year (Figure 5).

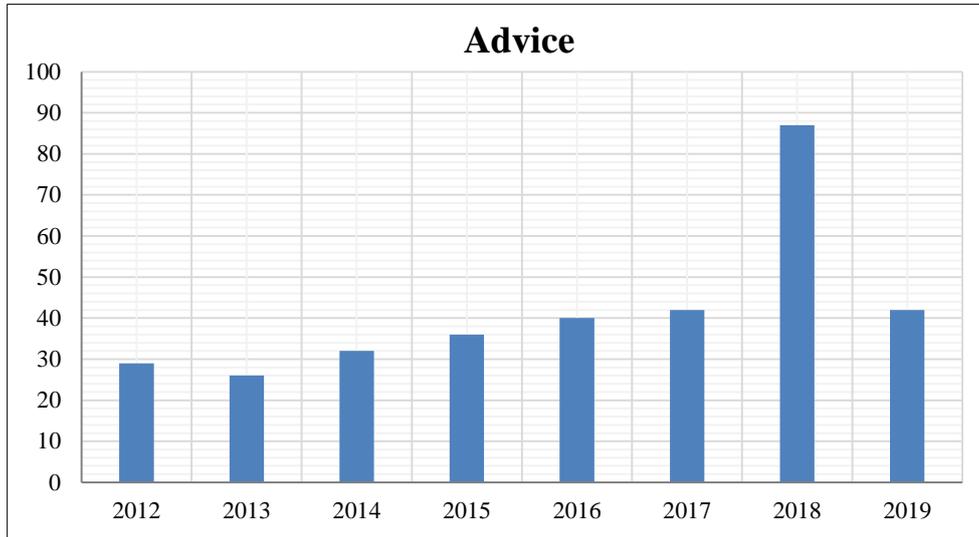


Figure 5. Graphic presentation of tips over the years by AIP

Complaints are submitted from the AIP annual report orally, by telephone, in writing, and through other means of electronic communication. The AIP has reviewed complaints against any person who considers that the right to privacy in terms of personal data has been violated, and complaints are divided by years (Figure 6).

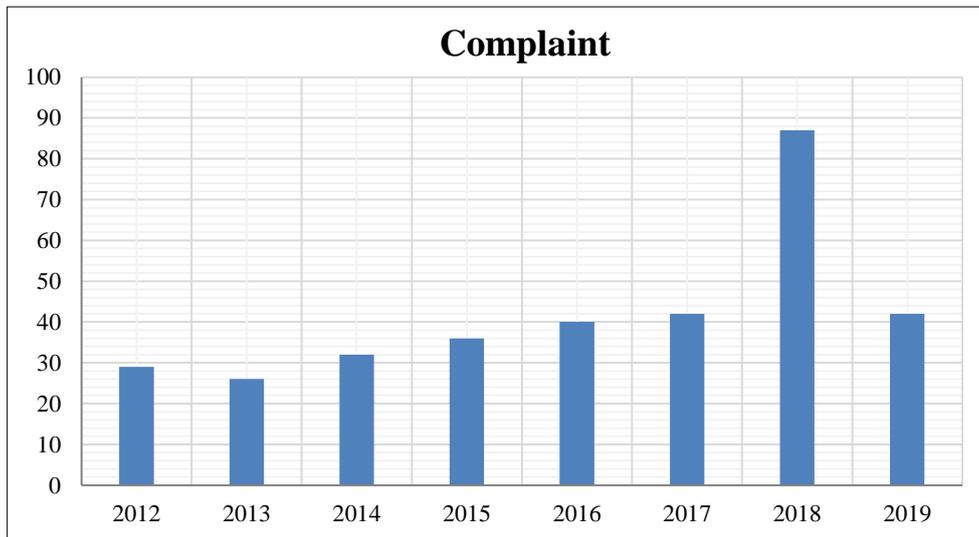


Figure 6. Graphic submission of complaints over the years by AIP

4- Conclusion

In conclusion, we elaborate that the legislation on data protection by the Agency for Information and Privacy responsible institutions in the Republic of Kosovo and the need for the exchange of personal data between institutions in the Republic of Kosovo is through the encryption of personal data with Encryption / Decryption referring to the recommendation according to LAW NO. 06/L-082 on Personal Data Protection by the Agency for Information and Privacy to ensure that they will be illegible and incomprehensible in cases of misuse of personal data.

Therefore, initially, the infrastructure was created for security with encryption of personal data in information and communication technology to exchange personal data using the security key and to call personal data through the personal number directly from the Central Registry system to the Minister of Labor Internal without having to type or enter personal data in other systems through the keyboard one by one, therefore the possibility of no errors in entering personal data, the benefits in time as personal data does not need to be added one by one directly to the systems.

This method of exchanging personal data with encryption/decryption is used in all developed countries, and there is a need for communication systems, as in the examples mentioned above. The electronic systems of registration and administrative procedure in the registration of the civil registry have significantly increased access, ease, and transparency and have reduced the cost of receiving these services by citizens and businesses. The massive use of information technology is based on building integrated networks with all guarantees of security of information storage and processing according to the legal definitions of the right to information, protection of personal data, and classified information. The rapid development of information technology and its use in almost all areas of society make evident the requirements for safe and reliable services. The public sector thus becomes more transparent and open. Democracy is strengthened by increasing accountability to citizens and their participation in the policy-making process.

5- Declarations

5-1- Author Contributions

Conceptualization, L.H. and K.D.; methodology, L.H., and K.D.; validation, L.H., K.D., S.K. and H.D.; formal analysis, L.H.; investigation, K.D.; resources, L.H. and K.D.; data curation, L.H., K.D., S.K. and H.D.; writing—original draft preparation, L.H., K.D., S.K. and H.D.; writing—review and editing, L.H.; visualization, L.H.; supervision, L.H., K.D., S.K. and H.D.; project administration, L.H.; funding acquisition, K.D. All authors have read and agreed to the published version of the manuscript.

5-2- Data Availability Statement

The data presented in this study are available in the article.

5-3- Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

5-4- Institutional Review Board Statement

Not applicable.

5-5- Informed Consent Statement

Not applicable.

5-6- Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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