

Evaluation of the Administrative Services on Issuing of Bulgarian Identity Documents

DIMITAR GEORGIEV

School for PhD students

Technical University of Sofia

8 Kliment Ohridski Blvd., 1756 Sofia

BULGARIA

dimitargeorgiev11@gmail.com <http://ff.tu-sofia.bg/>

TASHO TASHEV

Electrical Measurement Systems Dept.

Technical University of Sofia

8 Kliment Ohridski Blvd., 1756 Sofia

BULGARIA

ttashev@tu-sofia.bg <http://elfe.tu-sofia.bg>

IVO DRAGANOV

Radio Communications and Video Technologies Dept.

Technical University of Sofia

8 Kliment Ohridski Blvd., 1756 Sofia

BULGARIA

idraganov@tu-sofia.bg <http://rcvt.tu-sofia.bg>

Abstract: - In this paper is presented a detailed evaluation of the administrative services related to the process of issuing of Bulgarian identity documents. It includes complete classification of all types of personal documents currently in use with a description of their appearance and structure. Analysis has been made on the issuing process concerning the citizens' involvement from technical point of view. Special attention is posed on the administrative services provided by the issuing authority including the fundamental principles set in the Ordinance on Administrative Service, the level of material sufficiency, and the quality of information sharing. Based on the results from users' treatment and organizational issues examination the quality of service standards has been reconsidered. Ways of establishing of effective feedback from citizens are discussed as well. The wide spread of electronic processing of personal data including biometrics is another part of this study in the context of various security challenges.

Key-Words: - ID card, Passport, Administrative service, Biometrics, Digital Certificate, Digital Signature, ICAO

1 Introduction

The unification of the structure and content of identity and travel documents is a major challenge worldwide. A step towards accomplishing this process is the adherence of international standards part of which are the recommendations of ICAO (international Civil Aviation Organization) and DOC 9303 [1] in particular. It is applicable to all European acts.

Being of main importance the security features of all personal documents share dedicated specifications in the Member States of the European Union (EU) including employed biometrics.

Regulation 2252 of the Council [2] later amended by Regulation 444 of May 28th 2009 [3] are key documents on these matters. As a sequence all travel documents including passports are equipped with contactless chip for storing the personal data of the holder. Initially, it includes the image and two fingerprints of the person with an option for future use of iris and possibly other types of biometrics.

Two functions can be implemented by using the recorded biometrics - authenticity confirmation of the document and the identity of the holder which are strictly laid down in the Regulation. The production of Bulgarian identity documents valid

for more than a year strictly follows these rules in compliance with the local law compatible to the European regulations and the ICAO DOC 9303. Additional key document is Decision 2909 from June 28th 2006 of the European Commission (EC) [4] rendering an account of ISO and ICAO standards specifying the technical properties of the biometric elements.

Residence permits for foreigners are also under unification including the electronic data storage by the Regulation 1030 of the Council of June 13th 2002 [5] and Regulation 380 of April 18th 2008.

Identity and travel documents for citizens, refugees, sailors along with driving licenses inside the family members of EU are issued according to:

- Directive 2004/38/EC of the European Parliament and the Council of 29 April 2004 [7];
- Refugee Convention (28 July 1951) [8];
- Seafarer’s identity documents Convention (108/1958) [9];
- Council Directive 2006/126/EC of 20 Dec 2006 on driving licenses [10].

2 Identity Documents for Bulgarian Citizens Issued in the Past

According to the new international requirements and the national strategy for more efficient identification the first Bulgarian identity documents of the new type appeared in 1999.

In Fig. 1 are shown the old Identity Card and the Driving License.



Fig. 1. Identity Card (a) and Driving License (b) issued from 1999 till 2010

The machine readability of the passports was one of the innovations introduced in accordance with the ICAO recommendations, the ISO standards and the EU decisions assuring the format uniformity.

Around the same time, in 2 years time span, the old civil passports were replaced by ID cards. The features of the new passports allow Bulgarian citizens to travel inside EU without visas prior to the official affiliation of the country in it.

In Fig. 2 are shown the old types of passports.



Fig. 2. Passport (a), Seaman’s Passport (b), Diplomatic Passport (c), and Travel Document of Subsidiary Protection Beneficiary (d) issued from 1999 till 2010

3 Currently Issued Personal Documents in Bulgaria

3.1 Passport type documents with electronic storage device (Fig. 3)





Fig. 3. Passport (a), Service Passport (b), Diplomatic Passport (c), Seaman's Passport (d), Certificate for Travelling Abroad of a Foreigner Who Has Been Granted Asylum (e), Certificate for Travel Abroad of a Foreigner with Humanitarian Status (f), Travel Document of a Stateless Person (g), Travel Document (Convention of 28 July 1951) (h) issued from 2010

In contrast to short term documents all passports valid for more than a year are equipped with electronic storage device for personal information

(contactless chip). Their issuing started from March 29th 2010.

3.2 Passport type documents without electronic storage device

The passports which validity is no more than a year (Fig. 4) do not have electronic chip.



Fig. 4. Temporary Passport for Definitive Leaving the Republic of Bulgaria (a), Temporary Passport of Foreigner for Return to the Republic of Bulgaria (b), Temporary Passport of Foreigner for Return to the Republic of Bulgaria (c), Temporary Travel Document (d), Border Pass (e)

3.3 Bulgarian identity and residence documents, and driving licences

There are two different types of the Bulgarian Identity Card. The first one was issued prior to March 29th 2010. Both contain no electronic device.

The current design for it and for the driving license are presented in Fig. 5.a and b respectively.



a) b)

Fig. 5. Identity Card (a) and Driving License (b)

The set of documents issued by the Bulgarian Government to foreigners are shown in Fig. 6.



a) b)

c) d)

e)

Fig. 6. Card of Refugee (a), Card of a Foreigner Granted Asylum (b), Temporary Card of a Foreigner (c), Card of Subsidiary Protection Beneficiary (d), Certificate for EU Citizen (e)

Starting from June 2010 residents of the Republic of Bulgaria, foreigners with obtained residence permit under the Law on Foreigners and residents' family members in Bulgaria being EU citizens are being issued with a Residence permit (Fig. 7). It contains contactless chip similar to that in passports. In it there is the holder's image and / or fingerprints.



Fig. 7. Residence permit for third country citizens

4 Design of Passport Type Bulgarian Identity Documents

The pages of the new Bulgarian passports include 26 images of cultural subject closely related to the national and world history (Fig. 8). There is a distinctive historical chronology of these representations. Hence the passports users may feel the concept of "travelling in time".

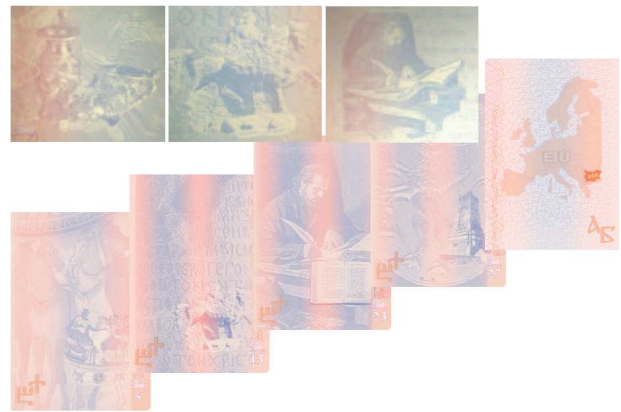


Fig. 8. Sample pages of the passport type documents containing various pictures

In the contactless chip there are two biometric features captured from the holder of the document – facial image and a fingerprint.

Biometrics is a measurable physical property or a feature of a particular person. It can be used as a proof that an individual is really who he or she is claiming to be. Important attribute of biometrics is that it is a part of the human but not an item that one could bring along. Typical biometric features are face, fingerprints, height, weight, hand shape, iris, etc.

The preparatory activities related to the issuing of the new identity and travel documents with biometrics according to the preliminary designed schedule ended on January 18th, 2010. Then, the reconstruction and installations of the supporting premises were led to finish. Following up to February 14th, 2010 the manufacturing and approval of the documents' prototypes were the next steps in

the process. The same date was put as a limit for the delivery and equipping of the hardware and software set-up for the main computer center of the Ministry of Interior. The centers for personalization were fitted up until March 7th, 2010 as a part of the decentralized concept for fetching personal data including biometrics. The biometric readers were delivered and installed until March 12th, 2010. Two days later the whole system were fully tuned and tested. As part of the organizational procedures the printing and delivering of forms needed for personalization of specimens for personal documents was accomplished until March 28th, 2010. The final starting of operation for the system was made on March 29th, 2010. It is officially named Centralized automated information system for decentralized personalization of Bulgarian personal documents (or more simply “the System”).

5 Personal Documents' Validity

From March 29th, 2010 queries for the new personal documents are accepted in the Republic of Bulgaria. It is not obligatory for Bulgarian citizens to have their documents reissued at that stage if the validity of their older documents is not overdue.

The green passports issued prior to 1999 and the termless ID cards issued after 1999 retain their validity and it is not necessary to be replaced with documents of the new type. The validity of the expiring ID cards and driver licenses in 2010 had been extended with 6 months in order to give a time slot for the citizens to get familiar with the new rules of issuing and organize themselves for the substitution. The expiration date for all the rest documents remains the same.

According to the Amending and supplementing law to the Law for the Bulgarian personal documents [19] enacted on December 9th, 2009, in the transitional and final provisions, §21a and §21b are created. They regulated the extension of the substitution process with 6 months during which period the older documents are valid for identification only on the territory of the Republic of Bulgaria. If an individual is willing to have new personal documents before the extension is over it is possible to apply. Driving licenses remain also individual certifying documents aptitude for driving motor vehicles only on Bulgarian territory and could be reissued earlier at citizen's request.

6 Organization of the Issuing Process

The applications for the new identity and travel documents are submitted in regional offices of the Ministry of Interior. Citizens can be serviced also in the Capital Directorate of Interior, the 27th district directorates of the Ministry of Interior and the Bulgarian Identity Documents Directorate. Driving licenses could be issued in any of the 28th stations of Traffic Police.

At the reception offices for citizens printing of the application form for issuing of the new personal documents is initially undertaken. The workplace (Fig. 9) for capturing biometric data includes a photo cabin. It is closely located to the workstation for making the biometric records. No fingerprints are taken from children below 12 years of age and from disabled persons.

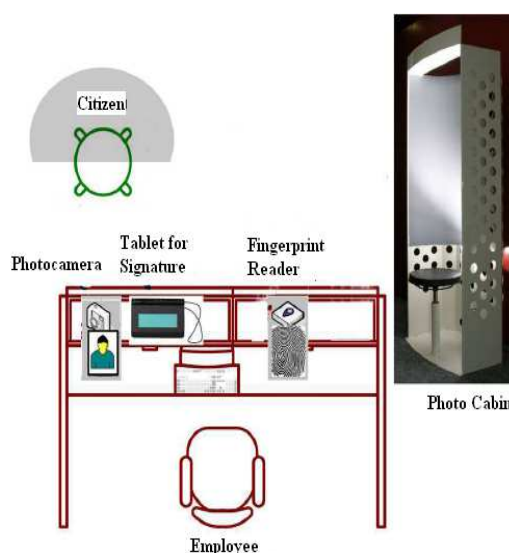


Fig. 9. Biometric data capturing workplace

Bulgarian citizens residing abroad could pass their applications for passport or ID card issuing to a diplomatic or consular mission of the Republic of Bulgaria in the respective country.

Issuing deadlines are as the following – regular order is served within 30 days, fast order for passports and ID cards – up to 3 working days and for driver licenses – up to 10 working days, while the express order (only for passports and ID cards) is executed within 8 working hours.

The fees for regular order of the basic types of documents issued for Bulgarian citizens are [20]: EUR 20 for a passport (against EUR 15 for the older version), EUR 9 for an ID card (with EUR 5 prior to that), and EUR 12.5 for a driver license (for EUR 9 up to that moment). The preferential fees regime

stays the same as previous assuring that disabled people, children below 16 years of age, retirees above 70 years old and others can take benefit of it. Also, the proportions between fees for regular order (2x) and express one (5x) are preserved considering the production and serving costs. Taking into an account the compulsory nature of the ID card a social element is added in the issuing fee formation.

The new technology provides a number of opportunities for citizens during their interaction with the authorities. These include no necessity of filling an application form from a scratch if personal information already exists for the particular individual. No photo is required either since it is taken at the service offices. Ailing and motor disabled persons may be visited by a mobile unit to provide proper assistance. A set of electronic services related to the issuing of the new documents also applies. Higher security and reliability are distinctive features of the new personal documents that the citizens can rely on.

Protective measures are foreseen against violations of the Bulgarian personal documents law in the form of penalties. A fine between EUR 10 and EUR 75 is owed when a person doesn't state a document reissuing within 30 days after a change of names, identification number, sex, citizenship, permanent address or occurred durable and significant changes in the appearance. The same mulct is also due if an individual doesn't apply for a new ID card 30 days after the expiration date of the current one. The deadline for return of a passport or a substituting document back to the issuing authority is 3 months after validity ends or after the grounds for issuance fall off. After that period the same penalty rule applies.

Even higher amount between EUR 15 and EUR 100 is demanded by a person being Bulgarian citizen who obtained personal document from another country without declaring it in front of the competent authorities. Loosing, damaging or destroying a Bulgarian personal document or using invalid documents and introducing deliberate obstacles intentionally to prevent an identity check ahead of the delegated authorities lead to the same sanction. The fine is from EUR 25 to EUR 150 reoffend.

7 Administrative Services' Evaluation

7.1 General principles

According to the Ordinance on Administrative Service [11] the common rules for ensuring the issuing process of personal documents in Republic of Bulgaria could be represented in 3 groups:

- Requirements to the access points and in-person activities;
- Information coverage of post-access services;
- Quality standards for administrative service.

It is in concord with the European code of good administrative behavior [12]. The general principles that need to be followed by the administrations from the Member States in their relations with citizens include legality, non-discrimination, impartiality, independence, avoiding authority misuse, proportionality, objectivity, politeness, etc.

7.2 Level of fulfillment for the access points' material requirements

During the study "Secret Agent" led by the Ministry of Administration and Administrative Reform of Republic of Bulgaria [13] the level of satisfactory utilization of key components from the access points for citizens was evaluated. The results from a public poll are given in Fig. 10.

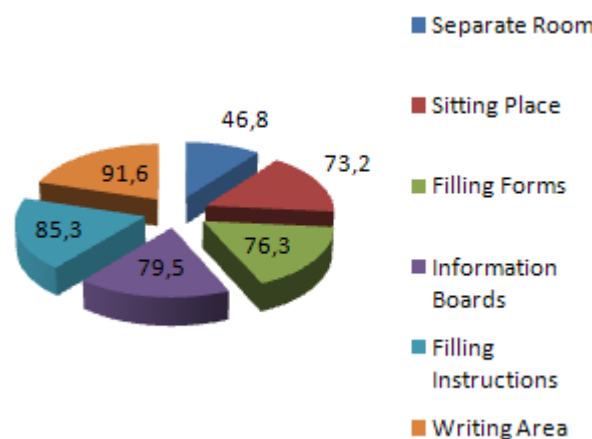


Fig. 10. Level of equipment in service places

The scale for evaluation is from 0 to 100. Users report no sitting places of around 5%. Almost 1/5 of respondents point out no sitting places available while around 2/3 share the positive impression of secured places for elderly, pregnant women and motor disabled persons. No instructions for filling forms were present in 10% of the examined cases. Apart from the general audience opinion European experts evaluated the front and back offices readiness for expeditious operation and set a high rate for it.

7.3 Quality of the information sharing about provided services

The Ordinance on Administrative Service [11] poses rigid demands in front of all administrative units to:

- Share information for the different types of administrative services,
- Clearly present the order of their sharing based on priority;
- Elucidate the organization of administrative service activities in details.

A study on the public opinion for accessing explanatory information [13] revealed a slight disproportion between oral and written representation (Fig. 11).

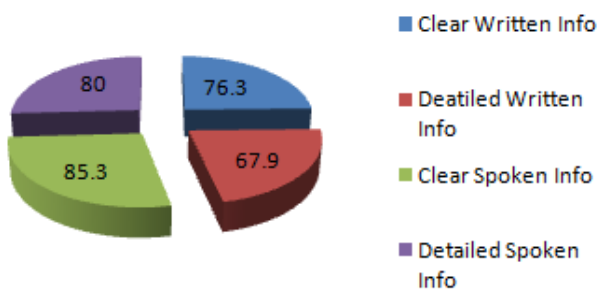


Fig. 11. Clarity and completeness of shared information by the Administration, scale 0-100

Oral expounding tends to have better success among the mass user than the interpretation of written information. There is a number of reasons for that – from paper prospects and boards in damaged condition, through outdated requisites which appear to be the factor with minimal influence, and occasional lack of description for intermediate processing steps. Interestingly, there is no specific distinction between the answers provided by users of different age and educational background about the efficiency of using the written guides. Not so is the case with respondents who are victims of crimes related to illegal use of personal documents. Almost twice, 5.3%, is higher the degree of unsatisfaction among them in comparison to the rest of the users – 1.4%.

The higher level of successfully reaching information in a spoken way reveals eminent level of professional competence and good faith among service personnel. Most clearly this information has been perceived by users of age 18-25 and 55-65 years with a success of 91-95%. A good practice developed during the course of accumulating experience is the establishment of statistics with the diverse questions rising within citizens' groups and adapting the content of leaflets including free from specific terms answers to the most frequent ones.

7.4 Self-assessment of the existing channels for providing information

During the study presented in [13] service channels for providing information to citizens were also evaluated from officials' point of view. The distribution of utilized grooves is shown in Fig. 12.

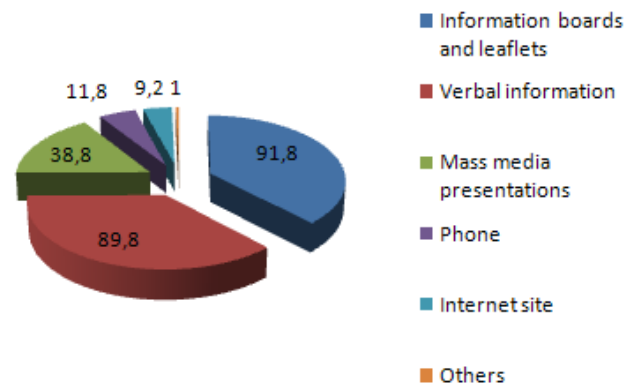


Fig. 12. Utilized information channels for citizens' awareness

The scale of utilization is from 0-100 but the total share number is greater than 100 since more than one type of channels are selected by the interviewees as the most productive mean for dissemination. The most exploited ways for sharing information remain the printed boards and leaflets along with verbal notification although accessible only in offices. Mass media presentations take the middle position close to 40% and lastly are placed the retrieval of information by phone, Internet site and others.

7.5 Quality of service standards and users' treatment

The quality of service standards are approved requirements for the administrative services measured by time consumption, quantity and quality of processed data. They are global (compulsory) and local (institutional). The global ones in Republic of Bulgaria include:

- In the performance of their duties every employee in the State Administration wears a badge with a photo and information about their name, position, administration unit to which one belongs;
- The State Administration employees are identified by first and last name in telephone calls;
- The deadline for responses to inquiries received by post and e-mail is up to 7 days and where it is necessary - on-site inspection or an opinion of another administrative body - up to 14 days;

- The waiting time in receiving information and / or processing of documents of administrative services when visiting the administrative units is no more than 20 min.; if the individual services have extended time waiting deviation from the general standard it is regulated by the internal rules of administration and emphatically in the Customer Charter;
- Business premises location of the administrative services are provided with seating and appropriate conditions for the elderly, pregnant women and people with disabilities.

Each administration accepts Customer Charter which is published on its Internet page, in brochures, other printed materials or declared in another appropriate manner. Customer Charter is placed in an accessible and visible place in the offices which serve users of administrative services. It includes:

- The general and their own (unit's) quality standards of administrative services;
- Ways of consultation consumers to improve and reporting work implementation of standards;
- Consumer rights and work organization with signals, suggestions and complaints in connection with administrative services.

Customer Charter may include additional information which the administration determines in view of its functional specificity.

The current research reveals that some employees do not wear all the time their badge during duties. There is no official statistics for personal representing by both names of the officials during phone calls.

Equal treatment to all categories of citizens is crucial to the modern administration and must be preceded by ease of access to the employee. Rough language and physical assault are completely inadmissible. There are a minor number of cases of unequal treatment of user (Fig. 13).

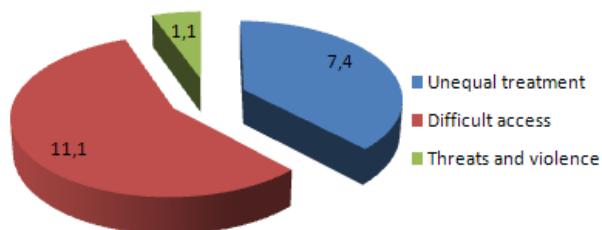


Fig. 13. Share of illegal acts of mistreatment in %

The Customer Charter, specifically used in each regional office of the Ministry of Interior where personal documents are being issued, must contain procedures stipulating feedback from citizens, such as [14]:

- acceptance of complaints and reports from consumers;
- monitoring and evaluation of the implementation of standards;
- measuring customer satisfaction;
- periodic review and updating of standards;
- employee training.

7.6 Problems in the organization of services

Administrative services assured by the units of Bulgarian Identity Documents Directorate should be adapted to the high demands for reliable identification and its primary significance alongside the new security challenges worldwide. In the same time the basic rights of the citizens must be preserved guaranteeing them due freedom. The accomplishment of such a balance is hidden behind the timely solving of persistent deficiencies inside the system.

The majority of the users issuing personal documents give positive appraisal to the delivered services. Some shortcomings and gaps related to certain activities are presented in Fig. 14, [13].

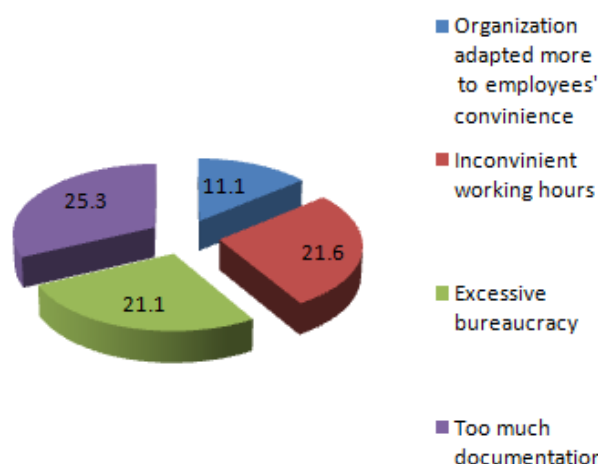


Fig. 14. Services' drawbacks from personal opinions of citizens, in %

An earlier study [15] suggests that almost half of the respondents (48%) were in the position to provide more documents for reception of the requested type of service. Optimization of that

number may be sought by appropriate normative measures in the future.

The younger users within 18-25 years of age find the present bureaucracy excessive the least (4.3%) while 1/5 of the older citizens share that opinion. Too much documents are thought to be demanded by 1/3 of 46-55 years old people. Active working persons (26-56 years) are the main group having the view for organization of the service process adapted more to the needs of the office personnel rather than to the users themselves. Almost none from the youngsters and elderly find that to be correct. The most probable cause for this separation of opinion is the mutual coverage of business hours between the administration and working citizens.

Reception offices start working at 8.30 and end at 17.30 on a normal basis. There could be extension of this period in situation of intense flow of citizens where the employees take the necessary rests scheduled additionally. It is found useful by 28.4% from the users with higher education and by 33.3% with primary one. Also, 30% from all citizens aged 45-55 years are satisfied with these extensions. Only 8.7% from the learners thought that the ordinary reception time is not suitable. Similar is the case with 26.9% of the persons who have been victims of a crime once, and 70% - twice. Just 19.6% of people without such experience from the last 12 months share the same view. This tendency supports the relation that the victims of crimes are more critical to particular aspects of police activity [16].

Another point that deserves attention is the earlier closing hour of payment desks – from 30 minutes to an hour shortly than the document processing desks. Since they are on contracts with various banking institutions there's no consensus on unification of the working hours so far. Typically, at the end of the day there may be only reception of already prepared documents.

Among other issues, the most important is to have many documents required by citizens - 43.9% and shortcomings in the legislation, noticed by 1/4 of respondent employees. The majority of those who appreciate the organization of service as good and very good, identified as a major problem the requirement of many documents from citizens in the application process respectively 57.7% and 50% [13].

It should be noted that in not all regions of the country the material conditions are specified by employees as a significant problem of service.

In the process of examining of the governing body was found insufficient awareness of the employees about administrative units in terms of the requirements of the concept of the Council of Ministers to improve administrative services (2002). The results show that 39.8% of the employees are familiar with that official government document. Also, 12.2% say they have met with him on own initiative as it is connected with their work. About 1/4 have only a vague idea of its content and 1/5 recognize that they did not know its requirements [13].

Respondent officials, unlike those working under labor relationship pose greater focus on issues related to regulation (36%) and the requirement of many documents from the consumers (52%).

As should be expected, the majority of civil servants - 76% are familiar with the concept while 56% have received official training in the problems it poses, and 1/5 were interested independently of the question. Only one third of those employed by the Government, however, working in front offices are trained officially. A fraction equal to 9.6% of them has acted on their own initiative in this direction. The survey results [13] show that such training is not officially implemented in all regions of the country.

According to staff working in various departments problems arise primarily from the restricted material conditions in which services are provided and in particular - insufficient equipment premises - 62.2% and the lack of reception rooms - 40.8%, [13].

There is no dominating issue that has made an impression on the majority of users which is indicator that are not generally established lasting negative practices and problems arisen in specific cases or separate regions. In conclusion, it can be said that considerable problems in the administrative services have arisen mainly from excessive bureaucracy in the service requirement of many unnecessary documents from the users and uncomfortable reception time.

Because of the great importance of the identification of persons with regard to global threats such as terrorism and organized crime at this stage it is hardly to expect radical relaxations in statutory regime of the units issuing personal documents. Efforts should be directed primarily to introduce elements of e-governance and other European practices to improve quality of service.

7.7 Establishing effective feedback

Organizing the means for effective feedback from the users is one of the key factors for success of the contemporary administration services [17]. All the information derived through these channels should be analyzed and generalized at various levels inside the Government, non-governmental organizations and independent academic institutions. Business representatives are also considered important part of the process of evaluating the practical experience of issuing personal documents as it also affects corporate productivity in informal fashion.

In the course of a prolonged study [13] it was found that one of the main resources for establishing a direct link to citizens is a set of information boards. This solution is found by 74.5% of the employees as a primary measure. Other ways for mass informing used in the real practice are given in Fig. 15 by their share of importance according to respondent personnel. The total amount of shares is more than 100% since more than one answer is possible.

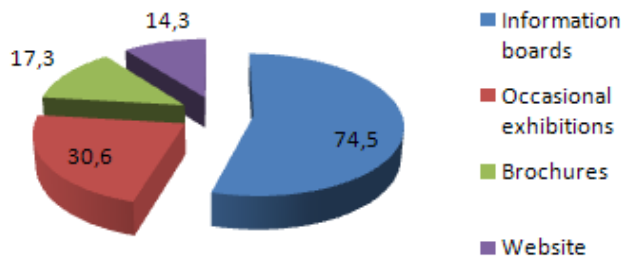


Fig. 15. Ways of establishing contacts with the public, in %

Occasional presentations during exhibitions are not so unpopular and were placed by 1/3 of interviewees as a procedure of considerable significance. Other channels are not so frequent. Straightforward dissemination of information concerning step-wise procedures in what appears to be one-directional process is dominating.

The results from serving the citizens are not so well popularized in relation to their needs. The presentation of information through web-sites is gathering speed since the initiation of this study.

Getting as complete as possible feedback from the citizens to the administration is the other half of the full circle providing bi-directional support. The most common way of getting timely and accurate information about the system's operation is through complaints to the principal of the regional office – 35.7% (Fig. 16), [13].

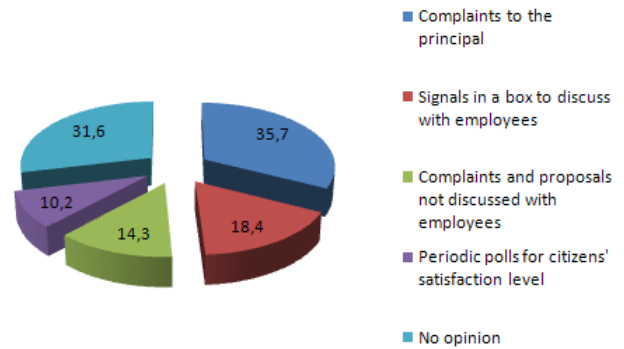


Fig. 16. Feedback channels significance, in %

The other feedback channels are not so popular and as a consequence the information gathered through them is not summarized and permanently stored inside the office. Civil servants gave preference to the boxes for signals and complaints as additional measure for enhancing the operation on a system level. Contractors from the same units refrain from opinion forming a cluster of 39.7%. Around 30% on average of all administrative offices throughout the country thought the box as popular although there are some negative considerations from the initial moment of its introduction [18].

8 Centralized Database and Information System

Centralized information system accounts for the management of personal data and the identity and travel documents issued in Republic of Bulgaria which is operated by the Ministry of Interior. Continuous data exchange is performed with other information systems (Fig. 17).

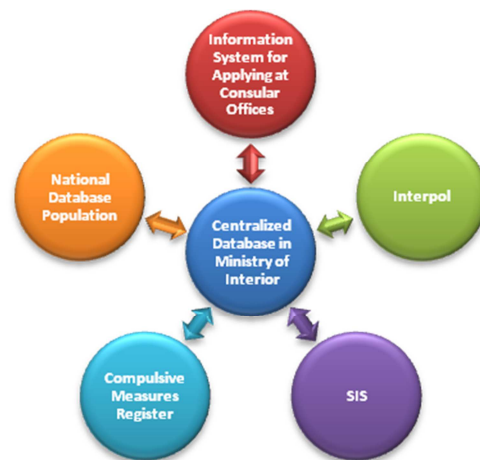


Fig. 17. Centralized database and information system

Together among them there is a tight connection with the Register of the population when issuing the documents.

The applications for issuing documents from consulates are passed to a dedicated information system. At this stage capturing and transmission of the biometric data currently being the citizen's photo and fingerprints to a database is done. After the documents are personalized in the Bulgarian Identity Documents Directorate they are passed through the Ministry of Foreign Affairs to the point of application. The control of the issuing process is the same as that practiced in the country.

In order to protect children at risk information is exchanged with the Register of the imposed administrative compulsory measures which typically include ban on leaving the country. If such exists withdrawal of already issued documents is performed.

Special attention is paid to invalid documents and stolen (lost) forms for which information is passed from the document register to the Information system of Interpol [21]. Automated hit verification (HIT) is provided there for wanted persons or blank documents since 2012.

Another positive development is the operation of the Schengen Information System (SIS) [22] in Bulgaria since November 2010. There a check could be made for lost or stolen identity and travel documents. Continuous bi-directional mode of data transmission is supported during these checks.

9 Security of Identity Documents

The measures taken against falsifications of identity and travel documents lead to increased level of illegal usage of real documents. One type of a common fraud is the use of a document with an image resembling the facial appearance of another person. Another one includes issuing a document with a real photo of the applicant but with insubstantial personal data. Simple check, e.g. by biometrics evaluation, could prevent the abuse in the first case while in the second situation the foundation of the administrative system is affected and more strict measures are needed. Some of the effective precautions that can be undertaken in the latter occasion include:

- When a minor's documents are issued the presence of the child is mandatory while the parents make the application;
- Additional police check must be done at the address of residence of the child when doubts occur about its identity (possibly by additional recognition by photo from neighbors and relatives);
- Older photos of the child from the centralized information system could be used for comparison with the currently delivered photo;
- Thorough check at the address of the applicant for establishment of the correspondence between the provided photo and the personal information.

At least two witnesses with Bulgarian citizenship and valid ID cards feeding written statements are required in the case when the applicant doesn't possess identification document. Criminal liability is sought from them if providing false information.

The Bulgarian Vice President has the right to give Bulgarian citizenship by decree in which case a confirmation is sent between the electronic systems of the Ministry of Justice and the Ministry of Interior in the form of certificate and a photo of the person. It is compared with the photo provided in the application.

Administrative actions are launched against officials allowing the issuance of false credentials and if forethought is found for these actions criminal liability is looked for from them as well.

The strictly controlled access to the database and all the hardware resources of the centralized information system is guarantee against various types of frauds. It is a major part of the concept for information security (Fig. 18). Being strictly followed as a top priority it assures the lawful issue of identity and travel documents.

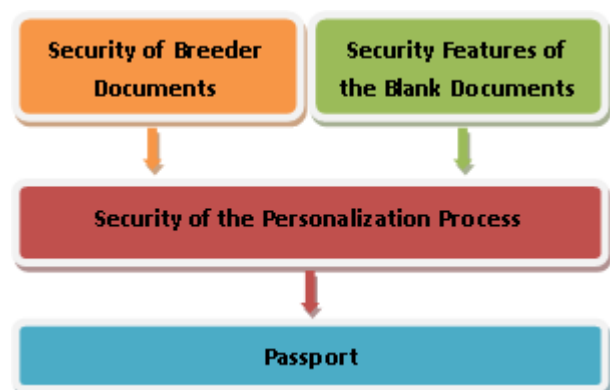


Fig. 18. Information security concept

The following types of attempts must be intersected:

- Any illegal issuance and use of personal documents;
- Identity substitution via false breeder documents;
- Any use of forged documents;
- Illegal leaving of children from the country.

The document number is one of the leading factors for certifying the validity of checked documents preventing identity thefts either by the use of lost or stolen documents or by the use of forged ones in various governmental and financial institutions.

Additional measures against providing false identity are:

- Real-time access by the National Schengen Information System (SIS) [23] to the National Automated Information Fund at the National Register of Bulgarian Personal Documents (NAIF NRBPD) [24] is provided for individual data and thus it is available to all EU member states;
- Ministry of Interior by its information system holds data on all cases of issued documents with data of one person and the image of another. More strict caution is required from clerks accepting citizens' applications;
- Ministry of Interior provides the functionality by a web-based portal for checking the validity of personal documents based on the serial number of the document and the date of birth of the holder;
- Notaries can also prevent abuse by accessing NAIF NRBPD evaluating the validity of personal documents during transactions;
- Detecting forged documents become more reliable in banking institutions since various public campaigns were carried out introducing their latest protective elements;
- Ministry of Interior holds records through its information system for all discovered forged documents. The

specifics of these cases are brought to the knowledge of the clerks accepting applications against future frauds;

- The management of the Sofia Directorate of the Interior and the Regional Directorates of the Ministry of Interior is often acquainted with the latest attempts of impersonation and forgery for taking countermeasures;
- Periodically new protections for the personal documents are introduced following the best international practices.

10 Country Signer Certificate

High level of security for the personal documents was introduced by the incorporation of the contactless electronic storage device. It stores personal data including biometrics which connects stronger the holder with the document.

The recommendations of ICAO and European legislation were fully implemented in the Republic of Bulgaria in order to have the complete set of capabilities provided by the system with digital certificates. In addition to that interoperability of the issued documents is achieved with already existing systems (Fig. 19).

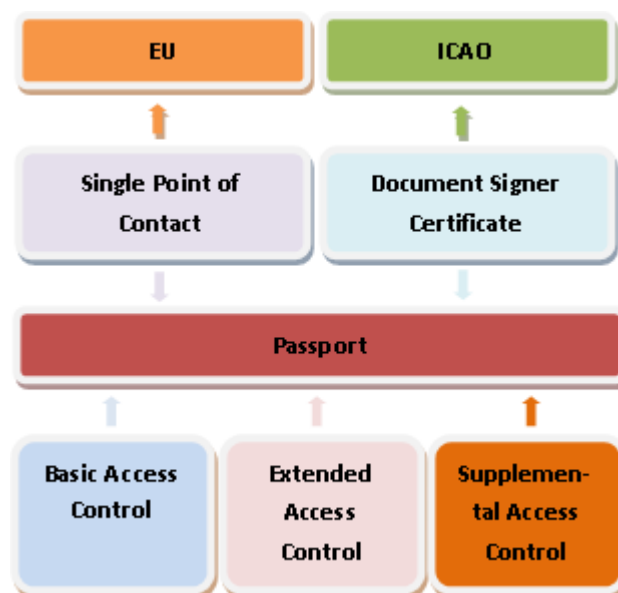


Fig. 19. The use of certificates and the access control types

Document signer certificate is stored in the chip for the issuing authority. The State certificate is

provided through diplomatic channels and working groups in the European Commission to partners of the European community. Typically, it is made available through server based system for external use by stakeholders. ICAO supports directory for exchange of publishers certificates (PKD) [25] and Bulgaria is a member of it. Supplemental Access Control (SAC) [26] is applied from April 2016 with Password Authenticated Communication Establishment (PACE v.2) [27]. It achieves higher level of protection when exchanging data with electronic documents accessing the built-in chip.

11 Identity Documents Verification

Starting from March 29th, 2010 the issuing of personal documents in Bulgaria included new security features usable at visual inspection. Any forgery attempts become more easily visible by placing the laminate in new position along with the halftone image of the holder perforated by laser.

Border control was tightened by providing the ability to security officers to check the photo which was included in the application for issuing of passing citizens in the database for personal documents through internal network.

Given the serial number of the document and the date of birth of the person it is also possible to verify the validity of a presented document through a website of the Ministry of Interior (Fig. 20).

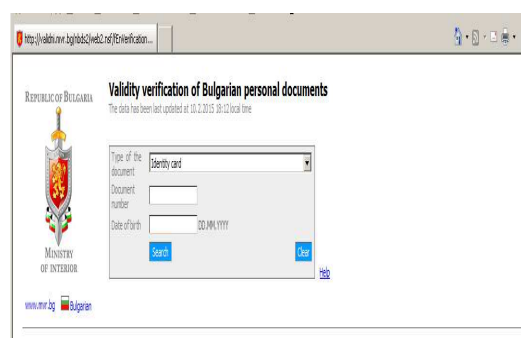


Fig. 20. Document validity verification portal

Specimens of Bulgarian identity documents can be seen over in the Public Register of Authentic Documents Online - PRADO (prado.consilium.europa.eu).

12 Release of new documents in the near future

In worldwide scale the security of identity documents becomes more important with the new challenges posed by mass migration and terrorism threats. Bulgaria makes no exception in this context. With the advance of modern technologies it was decided that the new Bulgarian ID card must contain electronic storage device with biometric data. It will be contained in a separate data group in a secured fashion according to the recommendations of ICAO DOC 9303. Holder's approval will be needed for recording. Currently biometrics for both Bulgarians and residing foreigners is being stored in the electronic supported documents. Corresponding law changes are intended for the ID card to be added to their family.

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13 Conclusion

In this paper an extensive overview of the personal documents for identification and travel of Bulgarian citizens and foreigners residing in Republic of Bulgaria is presented. Currently the protection against forgery has been applied in two levels – by introduction of a set of special materials and advanced physical features and by the use of encrypted electronic records stored in a chip for a part of the issued documents. Following the decisions and council regulations of the European Commission and the recommendations of the ICAO Bulgarian personal documents are considered reliable enough to the extent to be freely used within and outside the European Union including the Schengen area. In the near future a new advanced ID card with on-chip capabilities of providing electronic identity and qualified digital signature will be introduced further extending the abilities of Bulgarian citizens for free and more secure travel and wider economic exchange.

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