



Improving Mobile Government Service Delivery in Iran: Analysis of Experts

Elia Borhanzadeh 

Ph.D. Student in Public Administration,
Department of Public Administration, Allameh
Tabataba'i University, Tehran, Iran

Reza
Vaezi 

Professor, Department of Public
Administration, Allameh Tabataba'i
University, Tehran, Iran

Habibollah Roodsaz 

Associate Professor, Department of Public
Administration, Allameh Tabataba'i University,
Tehran, Iran

Ghodsii Bayat 

Assistant Professor, Department of
Communication Science, Alameh Tabataba'i
University, Tehran, Iran

Abstract

Purpose: The present study aimed to improve the quality of delivering government services by identifying the main components of the personalization of the m-government in Iran.

Method: Qualitative approach and exploratory research is applied. Data is gathered by targeted sampling and semi-structured interviews. Thematic analysis technique was used to analyze the interviews.

Findings: The research findings indicate that the personalization of mobile government in Iran includes five main themes and 16 sub-themes including social factors (e-services, e-participation), e-factors (productivity, policy making), managerial factors (accountability, human capital, transparency), political factors (e-legislation, information technology infrastructure), cultural factors (e-support, e-learning).

– Corresponding Author: theory.management@yahoo.com

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Conclusion: Experts emphasized on managerial factors like accountability and transparency of government activities. Also cultural factors are very important as digital literacy of society is very important in this regard. On the other hand regular review and update of current laws of ICT infrastructures and security policies should be considered as important by government. Also targeted filtering by personal information will make citizens more satisfied to receive updated information and related services based on their needs and preferences.

Keywords: Mobile Government, Electronic Government, Personalization, Public Services.



Introduction

Undoubtedly, today we are living in the most revolutionary period of history and constant transformation. What has created the background of such a transformation and what has distinguished the third revolution of human history from the first two revolutions, is the achievements of new and recent human technology known as information and communication technology (ICT) (Vaezi, 2021). The development of ICT and almost all business relationships to provide public services are moving towards electronicization. The Internet has reduced the cost of accessing information as well as the dependence on time and place. Governments seek to increase citizens' participation with the help of information technology and especially the Internet. (Kilic et al., 2019). Mobile technology has penetrated our daily lives and provided unparalleled access to communication and information. The use of mobile phones helps poor communities to generate more jobs, increase the level of literacy and cover the distance of easy access to quality health and treatment, education and economic development. Considering the global development in mobile technology, especially in developing countries, the creation of such technologies helps citizens' ability to express their requests and imposes increasing pressure on the government to respond to their requests (Chohan & Hu, 2020). According to Van Dijk, in the coming decades, government affairs and decisions will not proceed without the use of ICT (Iong & Phillips, 2022). E-government is the use of technological means of communication such as computers and the Internet to provide public services to citizens and other people in a country or region, which provides new opportunities for citizens to access the government more directly and deliver government services to citizens directly (Fernández et al., 2023). The procedures and services provided are all through the introduction and continuous allocation of information and communication technologies as facilitators of these developments. (Kilic et al., 2019). E-government strategies are defined as "using the Internet and the World Wide Web to deliver government information and services to citizens" (Blom & Uwizeyimana, 2020).

In e-government systems, government operations are supported by web-based services which includes the use of information technology, especially the Internet, to facilitate communication between the government and its citizens (Li, 2020). Personalization is one of the advantages of m-government and refers to the system's ability to adapt to

the user's personal preferences, needs and interests. Since the mobile device is used by a person, the m-government can provide them with personalized services in a better way based on the characteristics of the person and the location (Wang et al., 2020).

Therefore, during this research, it is intended to conduct an interview with the experts in this field to extract the constituent components in the personalization of the m-government by relying on their knowledge and expertise.

In Iran, in the direction of the general policies of the administrative name and resistance economy announced by the leadership and the fifth development plan of the Islamic Republic of Iran, with the aim of making it more agile, reducing the time and cost of administrative services, transparent the mechanism and fight against administrative corruption has presented a resolution on the technical and executive regulations for the development of e-government including seven chapters, in which the goals and macro management of electronic government, government re-engineering, information base and basic services of the government, information exchange centers, The technical tasks of the executive body and the tasks of the information technology organization have been addressed. The purpose of this resolution is the development of e-government with the following characteristics: fast and agile, responsible and responsive, efficient and effective, inclusive, compatible and adaptable, accessible, reliable, and with full coordination between government components and in line with creating transparency and dealing with forgery and corruption. The approvals related to e-government can be extended to the m-government because the m-government is one of the subcategories of the e-government.

The purpose of this research is to improve the quality of government services delivery by using the personalization of m-government. It is found that penetration rate of m-government in Iran is very low and the government in Iran has little maturity. Also few services are provided m-government. Therefore these questions are raised:

Main question: What are the effective factors on the personalization of m-government to deliver services in Iran?

Sub questions:

- What services can the personalized m-government in Iran include?
- To achieve a personalized m-government, content should include which items?
- What personal information of users should be taken into account in

order to achieve a personalized m-government?

- According to the personalized m-government, what measures should be taken to protect the privacy of the user?

Literature Review

E-Government

E-government provides a platform for the digital transformation of government administration by providing information services to stakeholders using digital technologies such as the Internet and social media (Osman & Zablith, 2020). E-government refers to the use of ICT by government organizations, which has the possibility of changing the shape of relations with citizens, businesses and other government organizations (Ambira et al., 2019). E-government can be considered a technology that allows government organizations to share information and make decisions. E-government mechanisms around the world are trying to integrate ICT to improve the delivery of government services to stakeholders, citizens, and government institutions by improving service quality, responsiveness, and efficiency (Wallang, 2018). E-government is a concept for connecting society with different government units using automated methods and in order to receive all kinds of government services, which is based on ICT and aims to improve performance, reduce costs and increase the speed of service delivery (Refiloe & Noluntu, 2018).

M-Government

In the m-government environment, citizens carry out their government transactions and activities through portable devices (generally mobile phones), these transactions are processed virtually, there is no face-to-face contact with the relevant government officials and people cannot observe the process and they may have doubts about the correct and complete processing of transactions. Therefore, factors such as reliability, security and privacy can be considered as user needs to accept m-government technologies (Yaghoubi et al., 2015). Developing countries increasingly consider digital technologies as a source of structural change and economic growth. Also, mobile internet is the main technology through which people in developing countries access the internet (Alsarraf et al., 2022). M-government can be considered as an extension of e-government considering the added value in comparison with e-government. In particular, m-government generally increases the value of

e-government from two aspects. First, the unique features of the m-government increase the effectiveness of government services. Second, m-government improves the effectiveness of government services. For example, m-government can provide citizens with more channels for participation, increasing transparency, reducing corruption and the digital divide. (Wang et al., 2020).

Trust and Privacy

According to Mayer et al., trust is the degree of sensitivity of one party to the behavior of the other party based on the expectation that he will perform a specific function that is important to the first party without having the power to monitor or control him (Alvani & Hosseini, 2013). According to Tan and Theon, people should trust the service provider and the mechanism through which the service is provided in any electronic service. Regarding the m-government, there should be trust in the government as a service provider as well as mobile technology through which the government provides its services. Many researchers have classified trust of the Internet (TOI) as institutional trust. Similarly, in m-government services, trust of mobile technology (TOM) is institutional trust. Trust of Government (TOG) means "a person's perception of the honesty and ability of a service provider organization" (Sultana et al., 2016). The risk of privacy and security is one of the common obstacles of e-government and m-government, of course, this risk is greater in m-government because the possibility of losing or stealing mobile devices is more. Also, lack of sufficient ICT skills of some civil servants and citizens increases this risk (Saunders, 2009). Therefore, during this research, this question should also be addressed: what will be the effect of trust and privacy in the m-government and its implementation?

Public Administration and IT

Public administration is strongly affected by information technology. In e-government, experts have emphasized the active role of citizens in formulating, implementing and evaluating policies, as well as mutual cooperation between public administration and citizens in delivering public services. Through creating more direct relationships between citizens and policies, as well as citizens and public administration, IT will lead to a better monitoring system and will affect the relationship between politics and administration, and at the same time, democratic

changes will occur in the field of service delivery. Through ICT, relationships can become shorter and more direct. Citizens directly and indirectly play a role in the regulation, implementation and evaluation of policies through internet communication (Danaei Fard, 2003).

Mobile Government Models

In general, there are four models of m-government:

Front Office	Mg2c Interaction between government & citizen	Mg2B Interaction between government & business
Back Office	Mg2E Interaction between government & government employee	Mg2G Interaction between government organizations
	People	Organizations

Figure 1. Model of m- government (Zukang, et al., 2011)

The scope of the present research is only focused on the use of m-government to deliver services and information to citizens.

M-Government Benefits

Digital solutions have become a tool for the stability and preservation of the lives of governments to manage their country and provide timely information to individuals and citizens, especially in times of crisis such as during the Corona epidemic (Khan et al., 2021). M-government service delivery will strengthen effectiveness and efficiency because online users will enjoy the benefits of faster, more convenient and cheaper service delivery (Camilleri, 2019). With the implementation of the m-government, citizens can participate in interaction, sending requests, questions and opinions to the government organizations and get access to some applications and general information using their mobile phones, which results in personal and comfortable interaction. M-government provides the possibility of providing timely services to people, which improves people's participation in democracy, accountability and transparency (Samuel, 2017). Jahanshahi et al reported in 2011 that the main benefits of m-government are improving the quality

of services, improving the effectiveness and efficiency of public services, increasing the usefulness, performance of public sectors, easier access to information needed by citizens, and quick and timely updating of data and information. (Yaghoubi et al., 2015). M-government has many advantages (Al Amri, 2018):

- Greater access to government services due to the large number of people using mobile phones
- Mobile is available anytime and anywhere.
- The possibility of choosing more personalized options because the mobile is designed for one person.
- The cost of m-government for citizens and the government
- M-government allows the government to manage resources in the best way.
- Faster flow of information between the government and its employees
- Developed democracy through the active participation of citizens in decision-making
- M-government is known as the best solution for the digital divide.
- M-government is able to develop its communication with the people through SMS.

Acceptance of M-Government

The success of m-government depends on the acceptance of the citizens. The study of Abu Shanab showed that five factors of usefulness, social impact, ease of use, responsiveness and adaptability are important, while the cost of the service was not important. On the other hand, in the study of Babollah and his colleagues, it was found that expectation of performance, expectation of effort, social impact, facilitating conditions, pleasurable motivation and price value are important factors that have influenced the acceptance of companion government in Saudi Arabia (Almuraqab et al., 2017). El Kiki and Lawrence enumerated the factors affecting satisfaction as follows: pricing, content, service quality, awareness, accessibility, availability, reliability, accuracy, responsiveness, goodwill, usefulness, effective interactive use, timeliness, trust, privacy, security, accountability and transparency (Sultana et al., 2016). The results of Saxena's research also indicate that the level of acceptance of m-government by users is a function of the extent to which the user finds m-government useful. The m-government platform should be user-friendly so that the user can easily and effortlessly access the m-government services. On the other hand, considering that m-government

services will also include financial transactions and personal information of users, users tend to accept m-government if they are sure of the privacy and confidentiality of their personal information (Saxena, 2017). In another study, perceived usefulness, perceived ease of use, trust, cost, social impact, variety of services, as well as intervening factors such as gender, age, and average monthly income were considered to be effective factors in the acceptance of m-government (Ahmad & Khalid, 2017).

Personalization

Considering that the main goal of this research is to provide personalized m-government in Iran, in this section, the concept of personalization and personalized m-government will be discussed.

Personalization is the degree to which intelligent services are provided based on the information and conditions of a person. According to research, users accept personalized products or services more because it meets their individual needs (Liu & Tao, 2022). Since the mobile device is used by a person, the m-government can provide personalized services to them in a better way based on the characteristics of the person and the location (Wang et al., 2020).

Personalized M-Government

M-government services enable the accuracy and personalization of users by using a mobile phone, which is also a personal device because it is designed for the use of one user (Wirtz et al., 2019). The purpose of this research is to determine the key features for the design of personalized m-government.

In Hu's research, it is stated that the information should include the location, content, profile and preferences of the user. In addition, personalized aspects for mobile services include content, conditions and user profiles. Also, Ning et al. focused on the personalization of services with a user-centered approach and simplicity design and believed that the aspects that should be considered for personalized mobile services are content, preferences and user profile. The personalized aspects in the research of Asif and Kroghesti included location, content, profile preferences, user interface and privacy. Also, Loeb and Panagos focused on information filtering and the location of the person, personal information such as preferences and interests that should be considered. Yung and Yang also focused on user profile including gender, age, job status and user category. Most researchers have focused on user interests

and preferences. According to Smith et al., the aspects that should be considered are conditions (location and device type), content, and user profile including age, gender, interest, preferences, skill level, mobile experience, and expertise. Noor et al. also aspects including conditions (location and type of device), content (information and type of service), and personal information (age, gender, education level, user category, nationality, preferences, religion, mobile use and experience proposed mobile). Personalization includes providing services according to the needs and preferences of citizens. It also deals with using the information provided by citizens in order to better design products and services according to their needs. The purpose of personalization is to provide suitable information to citizens without asking explicitly about their needs (Abu Bakar et al., 2017).

Therefore, the results of this research regarding the personalization of the m-government will allow citizens to use the services of the m-government without confusion in the accumulation of information and exactly according to their needs.

Krishnaraju et al. suggested website personalization for user acceptance of e-government technology. Important factors to consider include content, user profile and preferences. Hamburg and Dejshoorn acknowledged that content (information), conditions (location) and personal information such as interests, preferences, privacy and date (birth and death) should be considered to explain the personalization process in the provision of e-services in the Netherlands. According to Narukar et al., to analyze the aspects and personalized services provided to the user, factors such as location, user information such as age, gender, socioeconomic status, and preferences should be considered (Abu Bakar et al., 2017).

According to Al-Amiri 2018, personalization techniques are categorized as follows: 1) Collaborative filtering personalization, which includes two types of collaborative filtering: case-oriented and user-oriented. User-oriented filtering focuses on the similarity patterns between users' choices, and item-oriented filtering focuses on the similarity patterns between requests. 2) Location-based personalization: People tend to get information that is related to their location (Al Amri, 2018). Few researches have been done in the field of government personalization, and one of these researches was conducted by Suryana Abubakar et al. in 2017. Based on their findings, some factors that had the highest frequency were selected. The model presented in his research

is as follows:

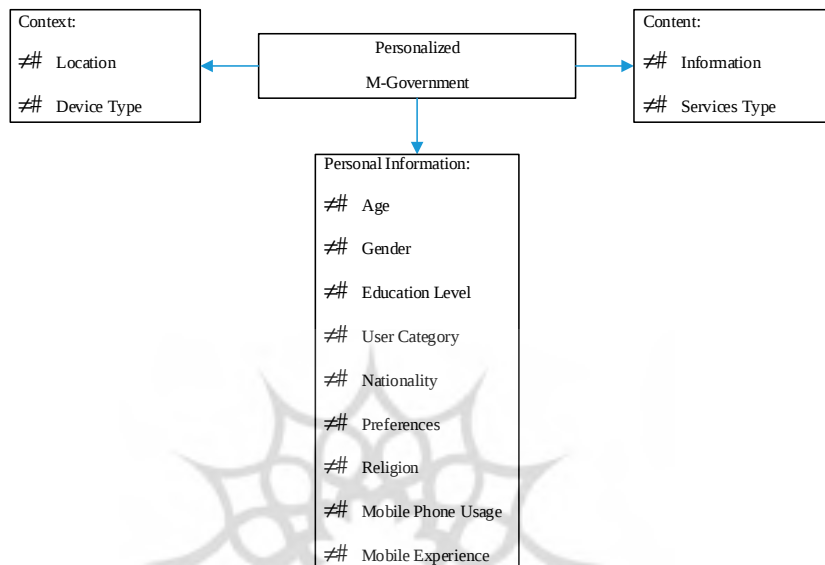


Figure 2. The diagram of personalized m-Government services attributes (Abu Bakar et al., 2017)

It seems that the factor of the individual's health status has been neglected in previous researches, but it is of special importance because it is necessary to pay attention to the needs of people with special diseases and the services they need, as well as to provide a useful m-government for them. Also, considering the vastness of Iran, the services needed in each region can be different from other regions. Therefore, geographical distribution has also been added to the initial framework. Therefore, based on the studies, the following components were selected and the basic framework that is proposed in Iran is as follows:

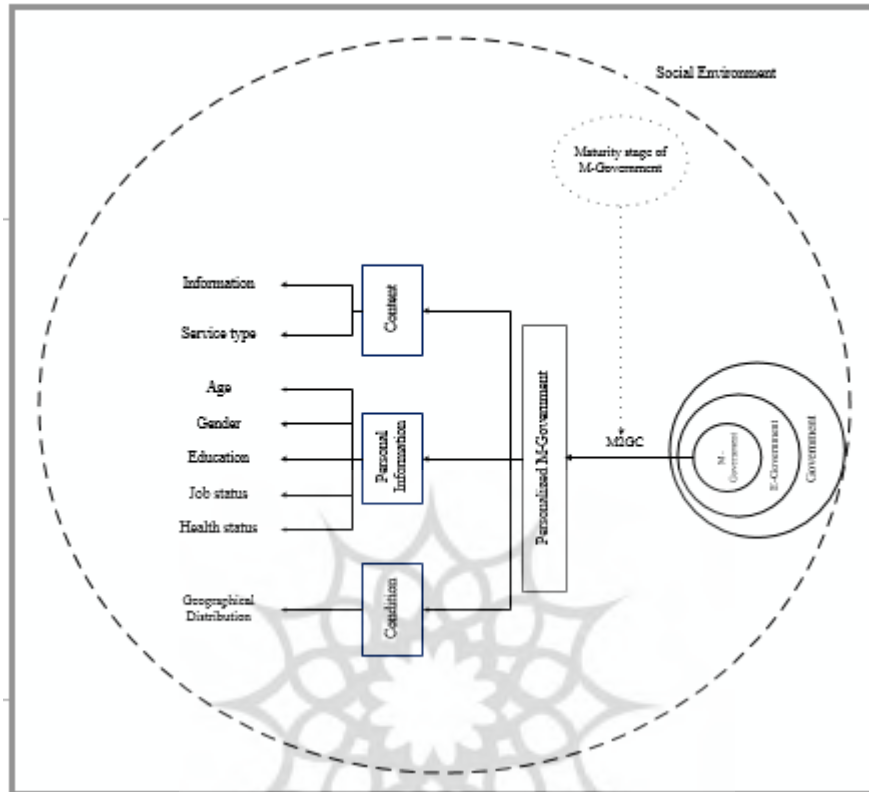


Figure 3. Initial framework of personalized m-government of research

M-Government in Iran

In line with the development of e-government in Iran, the national window system of smart government services was launched in 1401. This system is a single platform and infrastructure for providing widely used electronic services of government organizations for use by different sections of the society. This system facilitates the delivery of government electronic services and the participation of citizens with the help of executive bodies. The national window of smart government services is only an interface between citizens and government services and does not provide services at all (the national window of smart government services, <https://my.gov.ir/>).

In Iran, the National Data and Information Management Law "Davam", which consists of twelve articles and nine notes was approved at 1401. The details of the articles of this law are available in the system. In Article 10 of the Durability Law, the custodian of managing and updating

databases and basic information is determined (Research Center of the Islamic Council, National Data and Information Management Law, <https://rc.majlis.ir/fa/law/show/1753599>).

Method

This study is qualitative approach, applied research, positivist research philosophy, inductive research approach, survey research strategy, exploratory-descriptive research objectives, in terms of longitudinal-cross-sectional time frame.

Data collection is based on first-hand sources and through semi-structured interviews and includes open questions and targeted interview with experts. Experts are selected from people who have at least a master's degree in one of the fields of management or information technology and have at least five years of management experience in the field of m-government (with priority to have experience in e-government, m-government, the Ministry of ICT and related organizations and mobile operators). The selection of the research sample in this research is purposeful. 17 interviews have been conducted. Demographic information is as follows:

Table 1. Information of interviewrs

No. of Participants	Male	Female	PhD	Master
17	15	2	11	6

The method of thematic analysis is applied to discover and interpret the gathered data of interviews. Analysis of the data obtained from the interview was done by Clark and Brown method. Atlas TI software was used to extract the codes. Therefore, according to the mentioned steps, first, in order to get familiar with the data, the interview texts were implemented on paper and studied several times. Then important words and phrases were extracted with Atlas TI software. In the third stage, it was tried to understand the meaning of important sentences and phrases. In the fourth stage, the concepts and meanings of the same row were placed in a cluster or category, and then a comprehensive description of the phenomenon was made. In the sixth stage, a brief and realistic description of the phenomenon was tried, and in the last stage, the findings were provided to the participants for validation.

This research studies the period from May 2017 to September 2023 at the same time as the introduction of m-government in Iran. The personalization of m-government to provide services to citizens based on

the opinion of experts will be designed based on the needs of the entire Iranian society, but according to the establishment of the Ministry of ICT and related organizations, as well as the main offices of mobile phone operators in the city of Tehran, its test and pilot is taken place in Tehran.

Validity of Research Measurement Tools

In order to validate this research, different criteria were used. The criteria provided by Lincoln and Guba (1985) are as follows:

Reliability: The researcher personally evaluated the implemented interviews several times; then he returned his interpretations of the interviews to several of the interviewees and received their feedback. In general, it can be said that the results of the interpretations were accepted by the interviewees and very minor corrections were.

Transferability: This research also has the conditions of transferability, and therefore after the completion of this research, the transferability of the findings to other similar situations can be evaluated and generalized because the issue of personalization of the government is a fundamental issue in the field of public administration, which is tangible in all organizations and its effects can be seen. Based on this, the participants in the interviews include experts who have scientific and practical management experience at different levels of electronic government, m-government and smart government. It was tried to evaluate all dimensions and challenges of research subject in the interviews.

Reliability of research measurement tools: Three interviews were selected, and each of them was coded twice in a seven-day interval by the researcher and the coding had adequate reliability.

In order to calculate the reliability of the interview with the intra-subject agreement method of the two coders, one of the management professors was asked to participate in the research as the second coder and code three interviews. Then, the percentage of intra-subject agreement was calculated using the formula described:

$$100\% \times \text{Intra-subject agreement percentage} = \frac{2 \times \text{No. of Agreements}}{\text{Total No. of Codes}}$$

According to the formula, the reliability between the coders for the interviews of this research is equal to 82%, that more than 60% is acceptable. Therefore, coding has good reliability.

Findings

In this research, the factors affecting the personalization of the government were extracted by using the opinions of the interviewees. In this section, the researcher expresses the relationship between the concepts extracted from the interviews (initial coding) and the basic foundations of the research and tries to create a comprehensive and integrated relationship between the categories to develop a central coding based on these main categories, and finally provide a personalization model of m-government to deliver services in Iran.

Table 2. Composition and classification of themes

Overarching theme	Sub-theme	Discription
social factors	Electronic services	Development of general training of ICT
		Cultivation of the use of ICT at the community level
		High reliability
		Ease of using technologies
	Electronic participation	Participation of people in education
		Survey of citizens
		Participation of citizens in policy making
Economic factors	Efficiency	Increasing the quality and reducing the price of communication services
		Development of online transactions
		Management information system
		Increasing international internet bandwidth
		Quick access to information
		Providing diverse services and expanding the coverage of electronic services in the country
		Development of national information network
		Implementation of intelligent and targeted filtering

		Providing electronic government services to people through a single electronic portal
		Development of internal virtual networks
	Policymaking and policy	Adopting a specific policy in the field of intellectual property
		Coherence of policy-making and executive structure
		Shaping the market and stimulating demand
		Benefiting from information systems
		Renewing the structure of the country's ICT sector
		E-commerce rules
		Filling legal gaps
		Updating the current laws in the field of ICT
		Facilitating the conditions of contracting government contracts
		Service integration
Management factors	Accountability	Compliance with client's rights
		Responsiveness to visitors
		Accelerating the response to the media and public opinion
		Responding to participation monitoring units
		Trust and monitoring and efficiency of the government
		Faster and more accurate service
		Doing things without visiting in person
	Human Capital	Development of skill-based training in ICT
		Manpower capability and readiness
		Research commercialization training
		Architecture of business in line with

		governance perspective
		Cultivation of the use of ICT at society
	Clarification	Facilitate and help better implementation of laws and regulations
		Clarification through work steps
		Free flow of information and monitorability
		Clarity through administrative automation
		Clarification in administrative and employment matters
		News content and news
		Information about natural disasters
		Fast and accurate customized notification to people
Personalization	Access level	Unique identifier
		Access level for each user and organization
		Profile of a person and situation
		Verification of residence
		Access to information at different times and as needed
		Building trust in the digital world
		No activity restrictions during working hours
		Ease of financial and banking services
		device type
	Reliability	Strong security standards
		Information authentication
		Information quality measurement
		Commitment
		Cybersecurity
		Information security

	Personal Information/Individual Factors	Age and location of the person
		Identity verification based on the national code
		Identity verification based on mobile number
		Digital identity
		Digital signature
		Gender
		Level of Education
		Mobile experience
		Nationality
		Religion
		User category
		Mobile phone application
	Communication development	Two-way interaction
		Data exchange between various government institutions and services
		Development of online communication
Political factors	Electronic legislation	Clarification
		Electronic policy
		Using different views of citizens in creating e-governance
		Intelligence based on information
		Revision of laws as technology changes
		Environmental social responsibility
		Adequate knowledge of rules and regulations
		Independence of authentication systems
	Information technology infrastructure	Employee access to the Internet and intranet
		management of documents and files electronically

Cultural factors		information storage and retrieval systems
		Creating electronic networks
		Providing electronic training
		User-friendly electronic systems
		Network and communication infrastructures
	Electronic support	Supporting entrepreneurs
		Openness in decision making
		Financing and investment
		Cultural content
		Integration between organizations
	e-learning	new opportunities for learning
		knowledge promotion standards
		educational methods based on systemic thinking
		Emphasis on network structure to promote knowledge
		Educational content

Based on the findings in the above table, the factors affecting the personalization of m-government to deliver services in Iran include sub-components which are specified in the form of six overarching themes and 15 sub-themes.

Conclusion

Looking at the progress of digital developments in public administration, it is concluded that governments are trying to make maximum use of technology in order to provide maximum services to citizens and also to change the shape of relations with them to improve the quality of public services, responsiveness and efficiency. In this regard different phases of e-government have progressed to the point that m-government should be completely customer-oriented and prioritize needs of citizens in order to improve performance, reduce costs, and increase the speed of service delivery. Therefore, in line with this interaction and paying attention to

the needs and preferences of users, components such as trust, security and privacy should be considered as the needs of users to accept mobile government.

Based on the research done, the final model of the personalization of the government in Iran includes the following components:

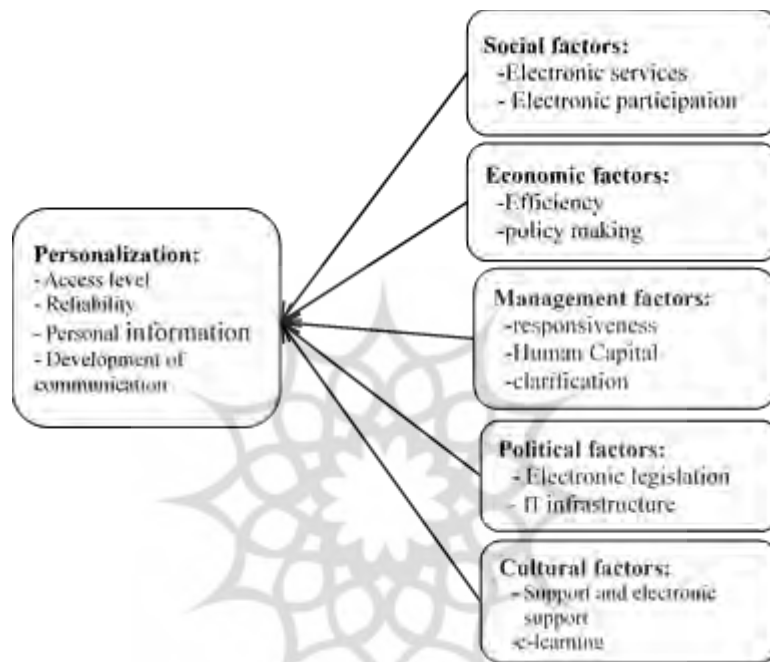


Figure 5. Effective factors in the personalization of the m-government in Iran

Some parts of results of these research are aligned with the researches of Zukang et al. (2011), Samuel (2017), Qtoub al-Amri (2018), Jahanshahi et al. (2011), Yaqoubi et al. (2012), Huang et al. (2016), Liu and Tao (2022).), Wang et al. (2020) and Ecomadio and Math (2020). Because all these researchers had the opinion that personalization is one of the benefits of the government that is related to the system's ability to adapt to the user's personal preferences, needs and interests.

Because all of these researchers were of the opinion that personalization is one of the benefits of government, which is related to the system's ability to adapt to the user's personal preferences,

needs, and interests.

Based on this research, politicians are advised to develop policies in a people-oriented manner and consider the main components of the personalization of m-government (social factors, economic factors, managerial factors, political factors, cultural factors). It is recommended to the Ministry of ICT to consider the opinions of the experts of this research, to develop and accelerate the plans to modernize the structure of the country's ICT sector and increase the Internet bandwidth to provide various services to the government and develop the national information network to provide faster and more accurate services. So that citizens can use various government services online, because this improvement of citizens' access to government services is an important measure to increase their satisfaction with the government. Also experts emphasized that government should plan for the development of public training of ICT skills for both citizens and government employees through free programs in organizations, national media, schools and universities in order to improve the literacy level of society in this area.

It is obvious that more awareness of citizens would result in greater penetration of m-government, which will lead to greater participation of citizens to play a direct and indirect role in the regulation, implementation and evaluation of policies through Internet communication. On the other hand, currently the database of government organizations is not integrated in Iran and every citizen must create a profile to use the electronic service of any government organization and enter his personal information and be authenticated, while all this information already exist in databases of various organizations. So it is advised to consider policies so that when each person enters the m-government system with his unique code (national code), all his information (such as identity information, residence, education, insurance, medical history and...) should be called. In this regard, it is recommended that the government take policies to integrate the databases of government organizations through a single electronic portal with a unique code for each person. It is also advised to the legislators to review and update the current laws of ICT infrastructures, security policies and cyber security to increase citizens' trust in the government. On the other hand it is understood that personalization is the key success factor for mobile government, which makes it possible to filter information based on the user's needs, preferences, and track his behavior. This targeted filtering by personal

information will make citizens more satisfied to receive updated information and related services based on age, gender, religion, location, occupation, nationality, etc. For example, with timely warning about natural disasters and quick and accurate customization of notifying people based on their location through mobile phones, which are more accessible to every citizen, many human and financial losses can be avoided.

Considering that this research is based on the opinions of experts, future researchers are suggested to conduct another research based on the opinions of citizens in order to investigate which factors should be taken into account for the personalization of m-government from the point view of citizens.

CONFLICT OF INTEREST: The authors declare that they have no conflicts of interest regarding the publication of this manuscript.

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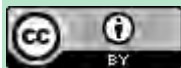
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