



**AN EMPIRICAL ANALYSIS OF PERSONAL IDENTIFICATION
SECURE COMPARISON EVALUATION SYSTEM'S INFLUENCE
ON EMPLOYEES' PERFORMANCE IN THE DIRECTORATE OF
IMMIGRATION AND CITIZEN SERVICES IN KENYA**

Macotiende Samwel Onyango 

MSc. Candidate, School of Business, Kenyatta University, Kenya
onyangootiende@gmail.com

Bula Hannah Orwa

Senior Lecturer, School of Business, Kenyatta University, Kenya
hannah.bula2014@gmail.com or bula.hannah@ku.ac.ke

Priscilla Ndegwa

Lecturer, School of Business, Kenyatta University, Kenya
ndegwa.priscilla@ku.ac.ke

Abstract

Electronic governance practices have been adopted globally to provide swift service, remove barriers to effective government services and efficiency by providing local access points. The use of information communication technology in management of operations is expected to enhance employees' performance by saving time and offering better service delivery. The general objective of this study was to investigate the influence of electronic governance on employees' performance in the Directorate of Immigration and Citizen Services in Kenya. The study specifically focussed on establishing the influence of Personal identification secure comparison and evaluation system on employees' performance. The study adopted a descriptive survey research design which was cross sectional in nature. The target population for the study was 516 comprising of employees of the in the Directorate of Immigration and

Citizen Services in Nairobi City County, Kenya. A sample size of 103 respondents was selected using stratified random sampling. Data was collected using a semi structured questionnaire which was administered to immigration officers. Data was analyzed using descriptive statistics and regression analysis. The results of the study revealed that personal identification secure comparison and evaluation system has a significant influence on employees' performance. The study recommends policy measures that would enhance e-governance in the immigration directorate.

Keywords: Personal identification secure comparison and evaluation system, e-governance, employees' performance, information communication technology

INTRODUCTION

The introduction and advancement of information and communication technologies (ICT) in government processes and procedures has enabled rationalization to be realized in the public sector (Yator & Shale, 2014). Progressively, the use of ICT has led to transformational changes in public policies, processes and functions which has led improved efficiency in government operations and service delivery (Gracia & Arino, 2015; Wamoto, 2015). The public, who comprise the largest portion of consumer of government services, recognize the significance of e-governance in easing service delivery and improving quality of the service (Yaghoubi, Haghi, & Asl, 2011). The effects of adoption of e-governance practices on employees' performance is considerable, especially when the performance of employees is measured in terms of quality of service, operational costs, customer satisfaction, quantity of output (Daft, 2010; Agbor, 2011; Sailaja, Basak & Viswadhan, 2015).

E-governance is one of the major strategies that several government agencies have applied to improve efficiency and effectiveness and by extension performance of government operations (Mungai, 2017). E-governance as a process of change entails sharing of information and delivery of services leading to greater transparency as well as convenience in transacting with the public and the government (Wanyama, 2016). ICT is used to better performance, increase efficiency, accountability, and transparency of the government (Muraya, 2015). E-governance, therefore, provides a platform for the government and its stake holders such as citizens, other governments, government employees and businesses to interact digitally to promote good governance, democracy and related virtues enshrined in the Constitution.

According to Khasawneh & Abu-Shanab (2013) four key functions namely, service provision, e-democracy and participation, public performance, and social development and

inclusion are performed by e-governance. Service provision entails governments openly and continuously having dialogue with its citizens while taking advantage of the existing social networks. The use of e-governance improves government performance through speedy service delivery and cutting costs. Kenya rolled out e-governance to improve service delivery in all major departments and ministries. E-governance systems necessitate the move from heavily paper based systems to electronic systems. As a result, the systems can be handled by fewer employees which may lead to reduction in the costs of operation (Mwangi, 2015).

Electronic governance initiatives that this study focused on at the directorate of immigration and citizen services in Nairobi City County, Kenya, were e-visa processing, e-passport system, e- foreign nationals' services (e-FNS) portal, and the Personal Identification Secure Comparison and Evaluation System (PISCES) (Mutambo, 2014). PISCES project grants officers at the immigration border controls and other law enforcement agencies access to a monitoring system that captures necessary information of any traveler visiting or passing through any country allowing the officials to recognize and hold up any individual of interest, if necessary. The system provides authorized personnel with country-wide network establishment that enhances faster and efficient extraction of desired data (Mittal, Wright, & Borisov, 2012; James & Vincent, 2018).

At Kenya's directorate of immigration and citizen services, e-governance services include e-visa processing, e- passport system, e-foreign nationals' portal, diaspora web portal and PISCES which should translate into improved employee performance. Although E-government strategy was rolled out in Kenya in 2004 with the aim of enhancing employees' performance much is yet to be achieved in terms of employees' performance (Mutegi, 2015). There are still issues of transparency, quality and accountability in employee performance. There is a problem of customer satisfaction in visa processing, e-passport screening and biometrics. These are challenges of failure to attain the set performance targets by employees' (Wanyama, 2016).

There is scarcity of empirical studies that link e-governance and performance at the employee level. The need to study e-governance and performance at employee level is critical. This study sought to fill the gap and investigate the influence of personal identification secure comparison and evaluation system (PISCES) on employee performance of the directorate of immigration and citizen services in Kenya. The null hypothesis of the research was Ho₂. Personal identification secure comparison and evaluation system (PISCES) has no statistical significant influence on employees' performance of the directorate of immigration and citizen services in Kenya.

LITERATURE REVIEW

The study was anchored by two theories; the theory of change and management information systems theory.

The Theory of Change

The theory of change was first published by Weiss (1995) and explains how and why initiatives work. The theory of change outlines the long-term goals and works backward to launch the basic preconditions (Brest, 2010). The theory of change centers not just on creating knowledge about a project's effectiveness, but also on clarifying methods of a project's effectiveness. The theory of change describes the process of change through outlining the underlying connections in an initiative; short-term, medium term, and long-term outcomes (Clark & Taplin, 2012). The change theory defines the pieces as well as the steps that are required to achieve a long term goal. The theory stresses that disagreements might transpire within different periods of a project short of a certain prediction being made and the changes could be handled through strategic interventions (Njama & Kyalo, 2015). The adoption of ICT through the e-foreign national's services portal is inclusive of several perspectives as well as participants in realizing solutions (Mwangi, 2015). The implementation of ICT in government services has improved employee performance. This theory supported the variable on PISCES as well as employee performance in the directorate of immigration and citizen services.

Management Information Systems Theory

Management information systems (MIS) theory was proposed by Weber (1986). Information systems consists of modes that have the capability to store data, channels that can dispense information as well as actors acting and re-acting upon that information (Affisco & Soliman, 2011). According to (Muir & Oppenheim, 2012), a system is the aggregate role of an organization, people, as well as technological artifacts it possesses. In the case where higher-order object of the human action system which is in an information system does not take place as a discrete tangible object. The MIS theory suggests that the short-term drive of an information system is dissemination of correct facts to the right actors in the right time.

Information systems and information technology (IT) are vital components of a successful business and organization. IT is related to the approaches, products, innovations, and values applied by people to create information. It also entails planning, collecting, transporting, recovery, storage, access, presentation, as well as information conversion in various forms. The control of information guarantees proper selection, management, operation, deployment, conservation, and IT assets growth consistent with the aims and purposes of the

organization (North & Thomas, 2011). Information systems or data frameworks have numerous roles in an organization, for example, building an operation's proficiency, processing business exchanges, monitoring and assessing employees job outcomes, and enhancing documentation and correspondence channels (Miranda & Kim, 2015). In the immigration department, information technology is vital in building the department's information system because according to Kostiwa (2013) ICT is an initiator, facilitator, and an enabler in the E-visa processing.

Personal Identification, Evaluation System and Employees' Performance

Mungai (2012) assessed the challenges facing e-governance plans in Kenya using a descriptive design. Data was analyzed using qualitative as well as quantitative techniques. The study findings revealed that information sharing policy-related barriers, skills-related challenge, high cost of investment in ICTs, and selection of staff to take part in change management programmes impact on e-government project. This study however, established the influence of PISCES and E-visa processing on employees' performance of Kenya's immigration department in Nairobi City County, Kenya. Additionally, Oyaro (2013) investigated the impact of records management on service delivery in Kenya's immigration department. The study sought to found out how records management influences service. The study targeted all the 413 staff at the department's headquarters but sampled 90 members of staff using stratified random sampling. Both Primary and secondary data were collected. The study found out that organizations had adopted ICT in records management which has only enhanced efficient and reduced the labour costs.

Okunola (2015) studied the experience of users on e-governance services on the immigration service in Nigeria and the results showed that participants had minimum satisfaction with the services offered by Nigeria immigration department. Areas of concern for the respondents were security, support and trustworthiness, documented safety of personal as well as financial data. Nevertheless, users loved the quality of the content and statistics provided in the portal. The study focused on customer experience only but not on the combined effect of timeliness in employee performance and achieving set targets that was investigated in this study. According to Mwangi (2015), the adoption of e-governance in Kenyan ministries reveals that it is beneficial bringing thoughts and objectives of noble governance to realism. The study also found out that combining ICT with other drivers of e-governance can make Kenyan ministries to be extra responsive and more effective in public needs, and eventually, create a highly sustainable future for the advantage of the whole nation.

METHODOLOGY

This study used a descriptive research design. According to Cooper and Schindler (2014), a descriptive research design involves a scientific method that entails observing as well as describing the behavior of the study subjects without manipulating them.

Target population of the study consisted of 516 immigration officers working in the three selected locations in immigration department in Nairobi City County. The population size comprised of 202 immigration officers in Jomo Kenyatta International Airport, 13 at Wilson Airport and 301. This study used stratified random sampling to select a representative sample of 20% from the target population leading to a sample size of 103 respondents.

To collect primary data, a semi-structured questionnaire was used. The questionnaire was administered through drop and pick method to give the respondents enough time to go through the questionnaire and fill-in their responses (Mugenda & Mugenda (2003). The questionnaire covered the influence of PISCES on performance of employees of the of immigration and citizen services in Nairobi City County. The other section consisted of the measures of Performance of directorate of immigration and citizen services in Nairobi City County, Kenya. The items were rated on a five-point Likert scale, ranging from 'strongly agree to strongly disagree' to measure the variables.

The questionnaire was validated by conducting a pilot study using 10 % of the target population and the respondents were randomly selected. The participants of the pilot study were not included in the sample for the main study. The data gathered was used to revise questionnaire items and establish that the measures cover the conceptual purview and theoretical constructs of the variables were correct and valid for testing. The measure of internal consistency of Cronbach's Alpha was used to determine the reliability of the questionnaire. Alpha coefficients of 0.7 and above indicate high internal reliability and are satisfactory (Tavakol & Dennick 2011). This study accepted Cronbach's Alpha coefficients of 0.7 and above.

Data was analyzed using descriptive statistics and a multiple linear regression model as stated in the regression model:

$$Y = \beta_0 + \beta_1 X_1 + e$$

Where;

Y = Employees' Performance

B₀ = Coefficient of intercept

X₁ = PISCES

e = Error term

FINDINGS

Response Rate and Reliability Test Results

The researcher administered questionnaires to 103 immigration officers based at Nyayo house, Wilson Airport, and Jomo Kenyatta International Airport. Those who adequately filled and returned questionnaires were 81 which represents a response rate of 78.6%. Nulty (2008) recommends a response rate of at least 65% for quantitative data if the responses are to be considered adequately unbiased for a sample size of 200 elements or below. Therefore, an overall response rate of 78.6% was considered adequate to generalise findings of this study. All the items that were tested for reliability yielded results of above 0.7 Cronbach's Alpha coefficient and were therefore reliable to be used for the study's investigation. Hypothesis was tested at 95% confidence interval and $P \leq 0.05$ was the basis for rejecting the null hypothesis.

Personal Identification, Evaluation System (PISCES)

A 5-point Likert scale, ranging from "Strongly Disagree" (1) to "Strongly Agree" (5), was used to measure the degree to which the respondents agreed with questionnaire items on PISCES. The results are summarized in Table 1.

Table 1: Personal Identification Secure Comparison and Evaluation System (PISCES)

Statement	N	Mean	Std Dev
PISCES helps in speeding up customer service delivery.	81	4.1	1.2
PISCES helps in prevention and deterrence of crime	81	3.9	1.3
Establishment of county-wide networks and retrieval of desired information using fastest communication channels by the authorized persons only have helped to reduce customer complaints.	81	3.5	1.1
Existence of sophisticated border management tools and powerful high-tech weapons designed to help fight against illegal immigrants	81	3.4	1.2

Source: Onyango, Bula and Ndegwa (2021)

The study found that PISCES helps in speeding up customer service delivery (mean = 4.1, standard deviation = 1.2) as well as prevention and deterrence of crime (mean = 3.9, standard deviation = 1.3). Also, establishment of county-wide networks and retrieval of desired information using fastest communication channels by the authorized persons only have helped to reduce customer complaints (mean = 3.5, standard deviation = 1.1). Besides, existence of sophisticated border management tools and powerful high-tech weapons designed help fight

against illegal immigrants (mean = 3.4, standard deviation = 1.2). The average mean was 3.7 with standard deviation being 1.2. These findings are consistent with the management information systems theory since in the immigration department, information technology is vital in building the department's information system since ICT is an initiator, facilitator, and an enabler in the PISCES.

Employees Performance

The results of descriptive statistics for employees' performance which was measured using four items are presented in Table 2.

Table 2: Employees Performance

Statement	N	Mean	Std Dev
I am able to Meet targets set	81	3.8	1.3
ICT enables me carryout my work with speed	81	3.8	1.4
Online collection comparison, and analysis of immigrants' information has helped reduce immigration offences and crimes.	81	3.7	1.3
ICT has reduced the level of Customer complaints [customer experience]	81	3.6	1.3

Source: Onyango, Bula and Ndegwa (2021)

As shown above, respondents revealed that, they are able to meet targets set (mean = 3.8, standard deviation = 1.3) and ICT has enabled them to carry out their work with speed (mean = 3.8, standard deviation = 1.4). Also, online collection comparison, and analysis of immigrants' information has helped reduce immigration offences and crimes (mean = 3.7, standard deviation = 1.3). Besides, ICT has reduced the level of customer complaints [customer experience] (mean = 3.6, standard deviation = 1.3). The average mean was 3.7 with standard deviation being 1.3. As demonstrated by Gamage and Imbulana (2013), targets and level of customer complaints are effective measurement of employee performance which is done through quality and quantity of their output, reduced absenteeism and timeliness in performance of tasks.

Correlation between PISCES and Employees' Performance

Using Pearson Correlation, the study sought to determine the relationship and degree of association between PISCES and employees' performance. The results are presented in the table 3.

Table 3: Correlation Coefficients

		PISCES	Employees' Performance
PISCES	Pearson Correlation	1.000	.635**
	Sig. (2-tailed)		0.000
	N	81	81
Employees' Performance	Pearson Correlation	.635**	1.000
	Sig. (2-tailed)	0.000	
	N	81	81

Source: Onyango, Bula and Ndegwa (2021)

The results in table 3 show that the relationship between PISCES and employee performance was positive and statistically significant at 0.05 level; PISCES (p-Value = 0.635 > 0.05).

Influence of PISCES on Employees' Performance

To determine the influence of PISCES on employees' performance, a linear regression was conducted. The results are presented in table 4.

Table 4: Coefficient of Determination for PISCES and employee performance

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	0.190	0.347		0.547	0.586
PISCES	0.253	0.109	0.234	2.324	0.023

a. Dependent Variable: Employee Performance

Source: Onyango, Bula and Ndegwa (2021)

Test of Hypothesis:

H_{01} : *Personal Identification Secure Comparison Evaluation System (PISCES) has no significant influence on employees' performance of the directorate of immigration and citizen services in Kenya*

Given that t-calculated (0.05, 2-tail test = 2.324) > t-critical (0.05, 2-tail test = 1.990) and p-Value=0.023<0.05, then H_{01} is not accepted and therefore the study concludes that Personal Identification Secure Comparison Evaluation System (PISCES) has significant influence on employees' performance of the directorate of immigration and citizen services Kenya; the study

also shows that a unit change in PISCES value is likely to cause a change in performance by 25.3 units as reflected in the beta coefficient of 0.253.

CONCLUSIONS

From the study we can conclude that electronic governance as indicated by PISCES has a significant influence on the employees' performance. The study found that PISCES helps in speeding up customer service delivery as well as prevention and deterrence of crime. Further, establishment of county-wide networks and retrieval of desired information using fast communication channels by the authorized persons has only helped to reduce customer complaints.

These findings imply that the immigration office should provide feedback system PISCES. This system should be effective and providing real-time service delivery. The government should also develop policies that are in tandem with requirements for efficient electronic governance. The policies should also target border management where there should be existence of non-sophisticated border management tools and powerful high-tech weapons designed to help fight against illegal immigrants. The government should enhance factors like authorization, production timeliness, and ease of use, quality, compatibility, location issues, systems reliability and relationship with users.

LIMITATIONS OF THE STUDY

The study focused on the adoption and influence of PISCES on employees' performance in the Directorate of Immigration and Citizen Services which is one of key departments in the Ministry of Interior and Coordination of National Government in Kenya. This limits the generalization of the findings on the influence of other e-governance systems such as e-visa processing, e-passport system, e-foreign nationals' services (e-FNS) portal on employees' performance. Further, given that the context of the study was in the public sector in Kenya, the results may not be replicated in private sector or contexts outside Kenya since the operation of the system is subject to laws, regulations and governance system in Kenya.

REFERENCES

- Affisco, J. & Soliman, K. (2011). E-government: a strategic operations management framework for service delivery. *Business Process Management Journal*, 12, 13-21.
- Agbor, J. M. (2011). The Relationship between Customer Satisfaction and Service Quality: a study of three Service sectors in Umeå.
- Brest, P. (2010). The Power of Theories of Change. *Stanford Social Innovation Review*. Spring.
- Carlo Bertot, J., Jaeger, P. T., & Grimes, J. M. (2012). Promoting transparency and accountability through ICTs, social media, and collaborative e-government. *Transforming government: people, process and policy*, 6(1), 78-91.

- Clark, H. & Taplin, D. (2012). *Theory of Change Basics: A Primer on Theory of Change* (PDF). New York: Actknowledge.
- Cooper, D & Schindler, P. (2011). *Business Research Method*. (8th Ed.). New York, NY: McGraw-Hill.
- Cooper, D. R. & Schindler, P. (2014). *Business Research Methods*. 12th Edition, Boston: McGraw-Hill.
- Daft, R. L. (2010). *Organization theory and design*. (10th Ed.). South Western: Cengage Learning, Mason, USA.
- Dinoroy, A. (2017). The Impact of e-Government System on the Public Service Quality in Indonesia. *European Scientific Journal* 13 (35) p 99.
- European Commission, Directorate General for Communications Networks. (2016). *Content and Technology. eGovernment Benchmark 2016. A turning point for eGovernment development in Europe?* 13th e-Government benchmark measurement for eGovernment
- Gamage, P. N., & Imbulana, L. (2013). Training and Development and Performance of Employees: Evidence from Sri Lanka Telecom. *International Journal of Marketing Financial Service & Management Research*, 2(9), 12-21.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., and Sarstedt, M. 2017. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. 2nd Ed. Thousand Oaks, CA: Sage
- Gracia, D. & Arino, L. (2015). Rebuilding public trust in government administrations through e-government actions. *Revista Española de Investigación en Marketing ESIC*, 19(1), 1-11.
- Imbamba, E. N., & Kimile, N. (2017). A review of the status of e-government implementation in Kenya.
- International Organization for Migration. (2015). *Migration in Kenya: A Country Profile 2015*. http://publications.iom.int/system/files/pdf/migration_profile_kenya.pdf.
- Miranda, S. M. & Kim, Y. M. (2015). Professional versus political contexts: institutional mitigation and the transaction cost heuristic in information systems outsourcing. *Management Information Systems Quarterly*, 30, 8.
- Mittal, P., Wright, M., & Borisov, N. (2012). Pisces: Anonymous communication using social networks. *arXiv preprint arXiv:1208.6326*.
- Mugenda O.M. & Mugenda A.G. (2003). *Research Methods Quantitative and qualitative approaches*. Nairobi: Acts Press.
- Mugenda, A. G., & Mugenda, A. G. (2012). *Research methods dictionary*. Nairobi, Kenya: Applied Research & Training Services.
- Muir, A. & Oppenheim, C. (2012). National information policy developments worldwide I: Electronic government. *Journal of information science*, 28, 173.
- Mungai, A. N. (2012). *Challenges facing e-government projects in Kenya* (Doctoral dissertation).
- Mungai, A. N. (2017). E-government strategy implementation and performance of the public sector in Kenya. *International Academic Journal of Human Resource and Business Administration*, 2(3), 301-338.
- Munyoka, W., & Manzira, F.M. (2013). Alignment of e-Government Policy Formulation with Practical Implementation: The Case of Sub-Saharan Africa. *International Journal of Social, Management, Economics and Business Engineering*, VII (12), 1766-1771.
- Muraya, B. M. (2015). *Factors Affecting Successful Adoption of E-Government in Kenya's Public Sector* (Doctoral dissertation, United States International University-Africa).
- Mutambo, A. (2014, October 29). State Opens Web Portal for Registration of Kenyans in Diaspora. *Daily Nation*, accessed on April 13, 2019 from <https://www.nation.co.ke/news/diaspora/State-opens-web-portal-for-registration-of-Kenyans-abroad/2107720-2503692-8fgb02z/index.html>.
- Mutegi, M. (2014, October 23). *Rollout of digital IDs starts in Feb*. Retrieved on April 12, 2019, from <http://www.businessdailyafrica.com/Rollout-of-digital-IDsstarts-in-Feb/-/539546/2497388/-/ujohpp/-/index.html>.
- Mwakio, V. (2012). *Strategy Implementation at the Kenya Immigration Department*: Un published MBA Thesis, University of Nairobi.
- Mwangi, N. M. (2015). *E-Government Adoption by Kenya Ministries* (Unpublished MBA Project, University of Nairobi).
- Ngumi, M.P. (2013). Effect of Bank Innovation on Financial Performance of Banking in Kenya. *Unpublished PHD thesis* Submitted to the School of Business, Jomo Kenyatta University of Agriculture and Technology.
- Njama, A. W., & Kyalo, D. N. (2015). Determinants of effectiveness of a monitoring and evaluation system for projects: a case of AMREF Kenya WASH programme. *University of Nairobi*.

- North, D. C. & Thomas, R. P. (2011). *The rise of the western world: A new economic history*, Cambridge University Press.
- Okunola, O. M. (2015). *Users' experience of e-government services: a case study based on the Nigeria immigration service* (Doctoral dissertation, Manchester Metropolitan University).
- Okwuke, E. (2013). *New ICT policy as catalyst for national development*. [online] Daily Independent, Nigerian Newspaper. Available at: <http://dailyindependentnig.com/2013/04/new-ict-policy-as-catalyst-for-national-development/> [Accessed 12 Apr. 2019].
- Ondego, B., & Moturi, C. (2016). Evaluation of the Implementation of the e-Citizen in Kenya. *Evaluation*, 10(4).
- Oyaro, J. (2013). *The Impact of Records Management on Service Delivery in Kenya's Immigration Department*: Unpublished MBA Thesis Kenyatta University.
- Sailaja, A., Basak, P. C., & Viswadhan, K. G. (2015). Hidden Costs of Quality: Measurement and Analysis, *International Journal of Managing Value and Supply Chains*, June 2015.
- Saunders, M., Lewis, P. & Thornhill, A. (2009). *Research Methods for Business Students*. 5th Edition, Pearson Education Limited, Edinburgh, England
- Saunders, M., Lewis, P. and Thornhill, A. (2012) *Research Methods for Business Students*. Pearson Education Ltd., Harlow.
- Stevenson(2011) Social Media Analysis of Perceived Product Obsolescence ...<https://www.sciencedirect.com/science/article/pii/S2212827116303870>
- Solinthone, P., & Romyantseva, T. (2016). E-government implementation. In *MATEC Web of Conferences* (Vol. 79, p. 01066). EDP Sciences.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education*, 2, 53.
- Wamoto, F. O. (2015). E-government implementation in Kenya, an evaluation of Factors hindering or promoting e-government successful implementation. *International Journal of Computer Applications Technology and Research*, 4(12), 906-915.
- Wanyama, B. W. (2016). *Assessment of e-government implementation on organizational effectiveness in the department of immigration in Nairobi, Kenya* (Doctoral dissertation, Mount Kenya University).
- Yaghoubi, N. M., Haghi, A., & Asl, S. (2011). e-Government and citizen satisfaction in Iran: Empirical study on ICT offices. *World Applied Sciences Journal*, 12(7), 1084-1092.