

ANALYZING THE ADMINISTRATIVE AND STAFF REQUIREMENT OF E-GOVERNMENT SERVICES PRIORITIZING THE DEPLOYMENT WITH MODULAR DESIGN: IRAQI CORRECTION SERVICES CASE STUDY

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ÖZET

Irak Tutuklu Hizmetleri, Adalet Bakanlığı bünyesinde bir kurumdur. Bu kurumda hizmetlerin çoğu klasik kağıt-kalem sistemi ile verilmektedir. Bu çalışma şekli hizmet sunumunda zaman kaybına, kurum çalışanları üzerinde iş yükü yığılmasına sebep olmakta ve bütün bunlar da hizmet sunumunda yüksek maliyetlere neden olmaktadır. Tutuklu Hizmetleri kurumundaki süreçlerin otomasyonu için yapılan veri analiz çalışmaları neticesinde öncelik verilecek hizmetler şunlardır: Resmi iş takibi için müsaade süreçleri, tutuklu durum bilgisinin paylaşımı, tutukluluk durumu sona eren kişilerin rehabilitasyon süreçlerinin takibi, tutuklu ziyaret izni süreci, resmi e-posta hizmeti, aile bilgilendirme hizmetleri, kurum sorumluluklarının ilanı, tutuklular ve aileleri arasında kontrollü ve filtrelenmiş e-posta hizmeti. Analiz sonuçları aynı zamanda otomatik hizmet sunumunda daha çok web tabanlı arayüzlerin tercih edildiğine işaret etmektedir.

Anahtar Kelimeler

E-devlet; Irak Tutuklu Hizmetleri; Otomasyon; Modüler tasarım.

ABSTRACT

Iraqi Correction Services (ICS) is a department following the Ministry of Justice. Most services are presented through conventional paper-based system. This system results in delays in service arrangement time and work over-stack on ICS members which means a high fees of service arrangement. Investigation of the collected information revealed the need ought to be given to the next services when automating ICS services: Applications of agreement for official job, Sharing prisoner status information, Rehabilitation services for out prisoners, Applications for prisoners' visits, Legal email services, Informatory services for prisoner

families, statement of ICS responsibilities, services of controlling and filtering email between prisoners and their families. The outcomes of the examination likewise point to the web-based service supply as the best desired user interface in services' automation.

Keywords

E-government; Iraqi Correction Service; automation; modular design.

INTRODUCTION

Recent developments in the information technology (IT) and correspondence advancements have played a noteworthy role on the move to programmed services. Such applications help governments in limiting resource utilization, increasing the general population bolster, and assessing the government performance [1]. Since 2003, the Iraqi government has introduced numerous new concepts and made numerous amendments to day by day life with the help of e-government applications. The Iraqi government is likewise currently interested in to establish new projects bolster for the information revolution and its contributing technologies, with the point of doing proper e-government [2].

The main tasks of the ICS are to perform judicial verdicts corresponding to prisoners in prisons for the period specified in the court judgments, rehabilitation of free prisoners and help them take part in the community, link with executive powers and non-governmental bodies to supply social and mental care for prisoners, and treatment prisoner-affairs for example family visits, freedom, and amnesty. As per the interior system, ICS is too in charge for providing healthcare and nutritional services as well as social and specialized rehabilitation of prisoners [3].

The greater part of ICS services have not been automated up until this point, especially those services that are provided to prisoners, prisoner's family and

citizens. Also, economic recession at Iraq is strictly affecting the money related resources available for governmental events including development of E-government services [4].

The efficient and effective usage of E-government technology requires prioritization of the ICS services to automate which best be delivered through IT means. The point of this research is to decide the development priorities of the ICS services with the suppositions of ICS beneficiaries.

LITERATURE REVIEW

Several studies that have been published about E-government applications in various countries. This consists of tax sector [5], civil status identity verification [6], local governance services [7], education occupation [8], and various other organizations and services [9].

Mohammed and Karim [5] studied the possibility of introducing e-government services in the general authority for taxation in Iraq. The study included participants from the authority's employees only. The authors conclude that the introduction of E-government application in Iraqi general taxation authority could face various challenge caused by lack of knowledge and experience of the employees to efficiently run the system as well as absence of the necessary infrastructure for the implementation.

Saeed [6] studied in his master thesis the readiness of Iraqi general population to use E-government application for requests submission to the ministry of education in Iraq. Saeed's study finds that only 9% of the respondents report that they receive quick response when they submit request to ministry of education via the internet whereas 49% and 29% of respondents receive late responses or no response at all, respectively.

Anaraki, Plugge, & Hill [10] suggested that to provide equivalence of care for prisoners, primary care trusts need to implement full electronic clinical records in prisons and to ensure that staff have access to resources on the internet. Shelton, et al [11] suggested the application of tele-monitoring in hospitals, clinics, and prisons, as they have ambulances equipped with systems connected to the receiving hospital.

RESEARCH METHODOLOGY

A. Research Hypotheses

To achieve the aim of the study, 6 hypotheses were produced and analyzed. Hypotheses were classified to be analyzed either through data gathered from the whole sample of the analysis or through a specific group of the sample. The hypotheses are as follows:

All Samples:

H1: ICS beneficiary category does not have a significant influence on their preference level on using web interface for automating ICS services.

H2: Education level does not have a significant effect on their preference level on using web interface for automating ICS services.

H3: Familiarity with a technology does not have a significant impact on the technology preference of users in automating ICS services.

ICS Employees:

H4: The Administrative position of an ICS staff member does not need a significant effect on his/her choices or perceptions towards ICS services automation. To accomplish assessment this hypothesis, it was broken down into 9 sub-hypotheses.

Other Governmental Employees:

H5: The Administrative position of the governmental staff who handles ICS services does not need a significant impact on his/her choices or perceptions towards ICS services automation. To help in trials this hypothesis, it was divided into 5 sub-hypotheses.

Citizens:

H6: The relative degree with a prisoner does not have a significant impact on a citizen's personal preferences or perceptions towards ICS services automation. To help screening this hypothesis, it was broken down into 9 sub-hypotheses.

B. Instrument Development and Validation

To be able to collect data required for testing the developed hypotheses, three questionnaires were developed. The first Questionnaire (Q1) was used to acquire data from ICS employees, while (Q2) was used for other governmental employees and (Q3) was used to collect data from prisoner's family. For validation purposes, the questionnaire the study has been reviewed as academic review by the supervisor and an older researcher. The study was then translated to Arabic in a back-to-back manner to ensure functional equivalence of the terms used in the two languages (English to Arabic to English). The study was then piloted through 5 members from the sample of the analysis to check comprehensibility of the questions and point out any possible ambiguity. After making trivial modifications predicated on reviewers' and members' commentary, the study was ready for utilization in collecting information from focus on sample. Reliability of the part 2 questions (calculating perceived need for ICS service automation) was tested through Cronbach's alpha coefficient with prices above 0.8 considered acceptably reliable.

C. Statistical Analysis

Likewise all inquiries were figured Previously, close-ended manner, the greater part information got starting with the questionnaire might have been dealt with similarly as ordinal information but to a portion demographic Also socio-investment variables for example, sexual orientation Furthermore managerial positions which were dealt with Likewise nominal variables. Average Furthermore range were used to rundown ordinal variables, Also frequencies Also rates to unmitigated nominal information. Univariate Investigation through Partial Least Square (PLS) regression might have been utilized to hypotheses testing, i. E. , will figure out whether the autonomous variable over theory altogether influences the subordinate variable. At tests were 2-tailed; p-values > 0. 05 were recognized statistically insignificant, <0. 05 significant, Furthermore <0. 01 highly statistically significant. Measurable dissection of every last bit information might have been done Toward SPSS PC program v. 22 (IBM corp. , Armonk, NY).

RESULTS

A. Demographics

Of the 150 reactions received, 13 reactions were excluded on account they were whichever incomplete, invalid alternately conflicting. The excluded reactions were 3 from ICS employees, 4 starting with other employees and 6 starting with Citizens.

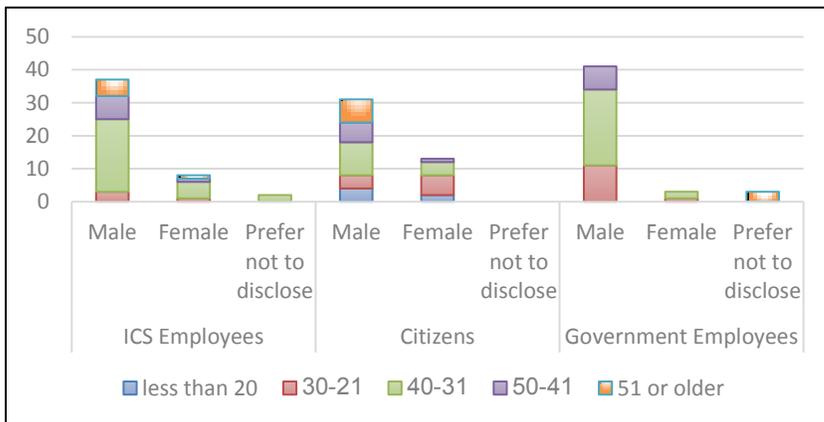


Fig.1 Age and gender distribution of respondents broken by ICS beneficiary category.

B. Technology Preferences

The studied participant’s ranked website services as the most useful IT application to be used as basis for automation of ICS services. Those median value to fact that those website provision might have been 7 (for The greater part important) while the vitality scores about Facebook Furthermore twitter were least Furthermore positioned 2 Also 1, separately. Figure 2 hint at those relative positioning from claiming fact that distinctive it

requisitions similarly as recognized by those contemplate members.

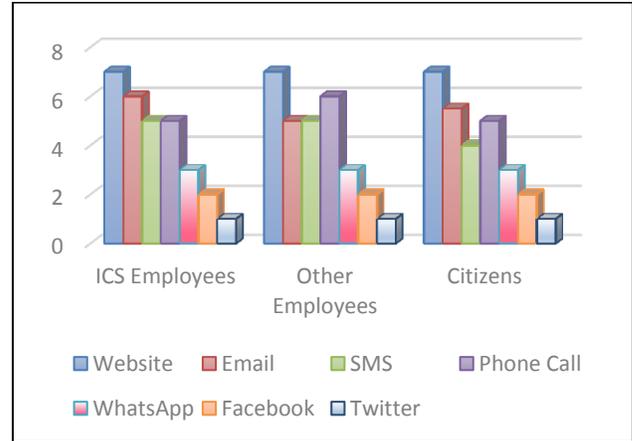


Fig.2 Preference ranking (median) of automation platforms.

C. Hypothesis Testing:

In this study we will present the results of 4 hypotheses from 6 hypotheses, because we are limited by the number of pages devoted to this research.

1. Whole sample

Hypothesis 1:

In order to properly analyze H1, we have divided it into 7 sub-hypotheses. Each one examines the effect of user type on a different technology preference. To sum up, the analysis of H1 showed that there is an agreement between users of different categories on their preference toward using websites, email, and SMS services. However, ICS beneficiary category significantly affects the degree with which users prefer using phone calls, WhatsApp, Facebook, or Twitter. Table 1 summarizes the regression analysis results for H1.

2. ICS employees:

Hypothesis 4:

Univariate regression analysis of H4 showed that the administrative position of ICS employees significantly affects their perception towards the importance of using email service for legal communications (H4₁), the importance of promoting trust through announcing ICS responsibilities on the website (H4₄), and the importance of automating rehabilitation services (H4₇). However, there was no significant difference between different administrative positions regarding the perceptions about the importance of automating other ICS services. Therefore, H4₁, H4₄, and H4₇ are rejected while H4₂, H4₃, H4₅, H4₆, H4₈, and H4₉ cannot be rejected (association cannot be proven).

Table.1 Hypotheses test results for H1

Hypothesis Number	Dependent Variable	Explanatory Variables	Constant (SE)	Coefficient (SE)	Significance	R-squared
H1 ₁	Website	User type	6.68 (0.49)	-0.51 (0.3)	0.099	0.029
H1 ₂	Email	User type	5.19 (0.45)	0.02 (0.28)	0.94	<0.001
H1 ₃	SMS	User type	4 (0.44)	0.49 (0.28)	0.085	0.032
H1 ₄	Phone	User type	3.89 (0.46)	0.77 (0.29)	0.009 *	0.071
H1 ₅	WhatsApp	User type	3.98 (0.39)	-0.62 (0.25)	0.014 *	0.064
H1 ₆	Facebook	User type	3.53 (0.4)	-0.72 (0.25)	0.005 *	0.084
H1 ₇	Twitter	User type	0.72 (0.34)	0.57 (0.22)	0.009 *	0.071

SE= Standard Error

* Significant

3. Other governmental employees:

Hypothesis 5:

Univariate regression analysis of H5 showed that the administrative position of other governmental employees didn't have a significant effect on their perceived importance of automating ICS services, contrary to ICS employees. Hence, Hypotheses H5₁, H5₂, H5₃, H5₄, H5₅ not rejected (Association between administrative position and perceived importance of ICS services automation cannot be established). Table 3 summarizes the univariate correlation test results for H5.

4. Citizens:

Hypothesis 6:

Univariate regression analysis of H6 showed that the respondent's relative degree with the inmate does not have significant effect on their perceived importance of automating ICS services except for automating inmate visit permissions for which there was a significant difference between different relative degrees (H6₉). Hence, H6₉ is rejected whereas H6₁, H6₂, H6₃, H6₄, H6₅, H6₆, H6₇, and H6₈ cannot be rejected (Association between relative degree with the inmate and perceived importance of ICS services automation cannot be established). Table 4 summarizes the univariate correlation test results for H6.

Table.2 Hypotheses test results for H4

Hypothesis Number	Dependent Variable	Explanatory Variables	Constant (SE)	Coefficient (SE)	Significance	R-squared
H4 ₁	Legal email	Administrative Position	3.23 (0.42)	0.22 (0.11)	0.037*	0.048
H4 ₂	time to incoming emails	Administrative Position	4.06 (0.37)	0.09 (0.09)	0.358	0.009
H4 ₃	Utility of website services	Administrative Position	4.4 (0.36)	0.0001 (0.09)	0.997	<0.001
H4 ₄	announcing ICS responsibilities	Administrative Position	3.14 (0.47)	0.25 (0.12)	0.033*	0.048
H4 ₅	sharing Inmate's status information	Administrative Position	3.92 (0.6)	-0.001 (0.17)	0.993	<0.001
H4 ₆	Legal communication	Administrative Position	2.69 (0.68)	0.16 (0.19)	0.415	0.015
H4 ₇	Automating rehab. services	Administrative Position	2.63 (0.64)	0.4 (0.18)	0.029*	0.101
H4 ₈	Family services	Administrative Position	2.69 (0.68)	0.16 (0.19)	0.415	0.015
H4 ₉	visit permissions	Administrative Position	3.72 (0.54)	0.03 (0.15)	0.84	0.001

SE= Standard Error

* Significant

Table3 Hypotheses test results for H5

Hypothesis Number	Dependent Variable	Explanatory Variables	Constant (SE)	Coefficient (SE)	Significance	R-squared
H5 ₁	legal email service	Administrative Position	4.83 (0.5)	-0.06 (0.15)	0.603	0.006
H5 ₂	Time to incoming emails	Administrative Position	4.91 (0.47)	-0.06 (0.11)	0.605	0.006
H5 ₃	Utility of website services	Administrative Position	4.99 (0.47)	-0.07 (0.11)	0.517	0.01
H5 ₄	ICS responsibilities	Administrative Position	4.65 (0.45)	0.02 (0.1)	0.865	0.001
H5 ₅	Official requests	Administrative Position	4.28 (0.38)	0.11 (0.09)	0.199	0.015

SE= Standard Error
* Significant

DISCUSSION AND CONCLUSIONS

Overall, it could be noticed that the valid response rate to the survey was satisfactory. Only 13 out of 150 responses (8.67%) received were deemed invalid, incomplete, or inconsistent and therefore were excluded from our analysis. This is considered a good indicator of the comprehensibility of the survey questions and the ease with which it could be completed. It is also notable that the majority of responses were obtained from male respondents compared to females. This significant titling of sample towards male is natural as it reflects the factual sex distribution within ICS beneficiaries and hence we believe that it wouldn't affect the validity nor the generalizability of the results.

Several studies that have been published about E-government applications in various countries those have a little bit of conflicting evidence, our study might invalidate the assumption of Mohammed's study [5] as the findings show the familiarity with technology did not

Table4 Hypotheses test results for H6

Hypothesis Number	Dependent Variable	Explanatory Variables	Constant (SE)	Coefficient (SE)	Significance	R-squared
H6 ₁	legal email service	Relative degree	3.42 (0.28)	0.13 (0.11)	0.258	0.03
H6 ₂	incoming emails	Relative degree	4.05 (0.24)	0.0001 (0.096)	0.999	<0.001
H6 ₃	Utility of website services	Relative degree	3.93 (0.24)	-0.04 (0.01)	0.653	0.005
H6 ₄	announcing ICS responsibilities	Relative degree	3.32 (0.27)	0.01 (0.11)	0.921	<0.001
H6 ₅	Promoting employment	Relative degree	3.9 (0.2)	-0.05 (0.08)	0.518	0.01
H6 ₆	Sharing inmate's status information	Relative degree	4.03 (0.22)	0.09 (0.09)	0.333	0.022
H6 ₇	legal communication	Relative degree	3.47 (0.2)	0.14 (0.08)	0.095	0.065
H6 ₈	email communication with the inmate	Relative degree	3.93 (0.32)	-0.02 (0.13)	0.869	0.001
H6 ₉	automating visit permissions	Relative degree	4.43 (0.26)	-0.32 (0.11)	0.005*	0.172

SE= Standard Error
* Significant

have significant impact on respondents' preference toward ICS services automation.

Saeed's study [8] finds that only 9% of the respondents report that they receive quick response when they submit request to ministry of education via the internet whereas 49% and 29% of respondents receive late responses or no response at all, respectively. In our study, more than 85% of respondents reported that email response time is important/very important factor to consider when designing an E-government system. Combining these two finding rises an alarm for a potential factor that may hinder the progression towards fully-automated government services in Iraq.

The uniqueness of our study is that we have analyzed the impact of many factors including demographics, familiarity with technology, ICS beneficiary category,

and other factors on the preference and attitude toward government services automation.

The results of our study form a solid basis for the design and implementation of an E-government application to automate ICS services that meets users' needs and expectations which may be generalized and extended to other services provided by governmental agencies.

Those necessities ought to be given of the next services:

1. Requests of permission for official work.
 2. Sharing inmate status information.
 3. Rehabilitation services for released inmates.
 4. Requests for inmates' visits.
 5. Legal email services.
 6. Family services.
 7. Announcing ICS responsibilities.
 8. Controlled and filtered email services between inmates and their families.
- Benefits mechanization is best should a chance to be attained through a web-based provision that is unable will get solicitations from the beneficiaries, store them done An database, What's more answer-paid with solicitations electronically without the requiring beneficiaries should personally available at those Branch.

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