Evaluation of Kurdistan Regional Government Websites

A study submitted in partial fulfillment of the requirements for the degree of Master of Science in Information Systems at THE UNIVERSITY OF SHEFFIELD

by

Aryan Abdulqader

September 2012
Abstract

Background: In recent years, the Kurdistan Regional Government (KRG) has invested in developing a number of websites as gateways to provide information and services to different sectors of the Kurdish community. Since the launch of its websites, the KRG has not conducted any evaluation to measure the performance of its websites in providing information and services to its audiences.

Aims: The main aim of this study is to evaluate the current state of a number of KRG websites in providing access to government information and services. Another central aim is to contribute toward improving the quality and effectiveness of these websites based on this study’s results and recommendations.

Methods: A literature review was conducted in order to develop a customized set of criteria that is suitable for evaluating KRG websites and government websites of developing countries. The customized set of criteria was turned into a questionnaire in order to conduct the evaluation. The researcher and four IT graduates used the questionnaire to evaluate the selected KRG websites. Later, the collected data was analyzed in order to find the results.

Results: The websites overall results ranged between 2.38 to 4.01. The Ministry of Higher Education and Scientific Research’s website was the best scorer among all KRG websites with an overall score of 4.01. Three websites out of the eight did not pass the evaluation as they suffer from various issues. The Ministry of Endowments and Religious Affair’s website had the lowest score in the evaluation which was 2.38. The aspects that KRG websites handled well in the evaluation were technicality, visibility where the scores ranged between 3.85 and 5.

Conclusions: It is concluded that most of the KRG websites achieved high scores in visibility and technicality aspects. They also handled the design, content and authority aspects well. Nevertheless, the majority of the KRG websites did not achieve promising results in privacy, services and navigation aspects. Further studies about the KRG websites with larger number of participants and using more methods will reveal more objective results.
Acknowledgments

First and foremost, I would like to thank Allah for giving me the power and health to finish my studies. I could never have done this without the faith I have in you, the Almighty.

I have great pleasure to express my sincere and deep sense of gratitude to my supervisor Prof. Nigel Ford for his exemplary supervision, guidance and support throughout the course of my master dissertation. One simply could not wish for a better or friendlier supervisor.

I also offer my profound gratitude to Mr. Alastair Allan for his help and encouragement during the period of my master course and dissertation. His advices and guidance are highly appreciated.

I am also thankful to the Kurdistan Regional Government for sponsoring me and giving me the chance to study my master degree abroad.

I am eternally grateful to my beloved parents Dr. Fraidoon Salih and Mrs. Baidaa Pero for their love, faithfulness, endurance and encouragement throughout my life. I also thank my lovely sister and brother for their love and support.

Special thanks to my friends for their participation in this study and all the help they offered me.

Aryan
# Table of Contents

Chapter 1 Introduction .................................................................................................. 8  
1.1 Introduction .............................................................................................................. 8  
1.2 Aims and Objectives ............................................................................................... 10  
1.3 Dissertation Structure ......................................................................................... 11  

Chapter 2 Literature Review ....................................................................................... 12  
2.1 Introduction .............................................................................................................. 12  
2.2 Government Websites Evaluation Criteria ............................................................... 12  
2.3 Techniques and Methods used in Evaluating Government Websites ....................... 15  
2.4 E-Government in the Kurdistan Region’s Context .................................................... 18  
2.5 Challenges Facing E-Government in Developing Countries .................................... 18  
2.6 Conclusion ............................................................................................................... 21  

Chapter 3 Methodology ............................................................................................... 22  
3.1 Introduction .............................................................................................................. 22  
3.2 Research Procedure ............................................................................................... 22  
3.3 Selecting the websites to be evaluated .................................................................... 23  
3.4 The Customized Set of Evaluation Criteria ............................................................. 26  
3.5 Research Methods .................................................................................................. 27  
3.6 Selecting participants for the study ......................................................................... 29  
3.7 Data Analysis ......................................................................................................... 30  
3.8 Conclusion ............................................................................................................... 31  

Chapter 4 Results and Discussions ........................................................................... 32  
4.1 Introduction .............................................................................................................. 32  
4.2 Evaluation Findings ............................................................................................... 32  
4.2.1 Findings by Websites ....................................................................................... 32  
4.2.2 Findings by evaluation aspects ........................................................................ 33  
4.3 Detailed Evaluation of KRG websites .................................................................... 38  
4.3.1 The official website of the KRG (www.krg.org) ................................................ 38  
4.3.2 Ministry of Higher Education and Scientific Research’s website (www.mhe-krg.org) ................................................................................................................. 41  
4.3.3 Ministry of Education’s website (www.moe-krg.org) ....................................... 48  
4.3.4 Ministry of Planning’s website (www.mop-krg.org) ........................................ 53  
4.3.5 Ministry of Finance and Economy’s website: (www.mof-krg.org) .................... 60
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3.6 Ministry of Electricity’s website (<a href="http://www.krgelectric.org">www.krgelectric.org</a>)</td>
<td>63</td>
</tr>
<tr>
<td>4.3.7 Ministry of Endowment and Religious Affair’s website (<a href="http://www.merakrg.org">www.merakrg.org</a>)</td>
<td>68</td>
</tr>
<tr>
<td>4.3.8 Ministry of Municipality and Tourism’s website (<a href="http://www.momt-krg.org">www.momt-krg.org</a>)</td>
<td>72</td>
</tr>
<tr>
<td>4.4 Conclusion</td>
<td>75</td>
</tr>
<tr>
<td>Chapter 5 Conclusions and Recommendations</td>
<td>76</td>
</tr>
<tr>
<td>5.1 Introduction</td>
<td>76</td>
</tr>
<tr>
<td>5.2 Conclusions</td>
<td>76</td>
</tr>
<tr>
<td>5.3 Recommendations</td>
<td>78</td>
</tr>
<tr>
<td>5.4 Limitation of this study</td>
<td>79</td>
</tr>
<tr>
<td>5.5 Future studies</td>
<td>80</td>
</tr>
<tr>
<td>References</td>
<td>82</td>
</tr>
<tr>
<td>Appendices</td>
<td>86</td>
</tr>
<tr>
<td>Appendix 1</td>
<td>86</td>
</tr>
<tr>
<td>Appendix 2</td>
<td>87</td>
</tr>
<tr>
<td>Appendix 3</td>
<td>88</td>
</tr>
<tr>
<td>Appendix 4</td>
<td>93</td>
</tr>
<tr>
<td>Appendix 5</td>
<td>100</td>
</tr>
</tbody>
</table>
List of Tables

Table 3.1: The selected KRG websites to be evaluated ...........................................26
Table 4.1: KRG websites results in Content aspect......................................................34
Table 4.2: KRG websites results in Authority aspect........................................................34
Table 4.3: KRG websites results in Navigation aspect..........................................................35
Table 4.4: KRG websites results in Visibility aspect..........................................................35
Table 4.5: KRG websites results in Technicality aspect..................................................36
Table 4.6: KRG websites results in Design aspect .............................................................36
Table 4.7: KRG websites results in Privacy aspect ..............................................................37
Table 4.8: KRG websites results in Services aspect .........................................................37

List of Figures

Figure 3.1: KRG websites visitors’ percentage.................................................................24
Figure 4.1: Evaluation results of the KRG websites.........................................................33
Figure 4.2: Evaluation results of krg.org..........................................................................38
Figure 4.3: Navigation difficulty on krg.org.................................................................39
Figure 4.4: Visibility test results of krg.org.................................................................40
Figure 4.5: Evaluation results of mhe-krg.org .................................................................42
Figure 4.6: Problems with headings of mhe-krg.org .......................................................43
Figure 4.7: Language inconsistency of mhe-krg.org .......................................................44
Figure 4.8: Problems with Gallery page of mhe-krg.org ..................................................44
Figure 4.9: Lack of information on mhe-krg.org..............................................................45
Figure 4.10: Sitemap problem of mhe-krg.org .................................................................46
Figure 4.11: A page without any information on mhe-krg.org .............................................46
Figure 4.12: Visibility test results of mhe-krg.org ...........................................................47
Figure 4.13: Evaluation results of moe-krg.org .................................................................49
Figure 4.14 Content problem of moe-krg.org .................................................................50
Figure 4.15: Visibility test result of moe-krg.org ..............................................................51
Figure 4.16: Calendar overlaps navigation bar on moe-krg.org ...........................................52
Figure 4.17: Calendar changes position on some pages of moe-krg.org………………………………52
Figure 4.18: Evaluation results of mop-krg.org………………………………………………………54
Figure 4.19: Pages with no information on mop-krg.org…………………………………………55
Figure 4.20: Navigation mistake on mop-krg.org……………………………………………………56
Figure 4.21: Visibility test result of mop-krg.org……………………………………………………57
Figure 4.22: Inconsistency in the fonts used on mop-krg.org……………………………………58
Figure 4.23: Table problem on one of the pages of mop-krg.org………………………………59
Figure 4.24: Difficulty in finding services on mop-krg.org……………………………………59
Figure 4.25: Evaluation results of mof-krg.org………………………………………………………60
Figure 4.26: Lack of content on mof-krg.org…………………………………………………………61
Figure 4.27: Visibility test results of mof-krg.org…………………………………………………62
Figure 4.28: Evaluation results of krgelectric.org…………………………………………………64
Figure 4.29: One of the blank pages on krgelectric.org…………………………………………64
Figure 4.30: Language inconsistency on krgelectric.org…………………………………………65
Figure 4.31: Language issue with the main navigation bar on krgelectric.org…………………..66
Figure 4.32: Visibility test result of krgelectric.org…………………………………………………66
Figure 4.33: Inconsistency in the font used on krgelectric.org…………………………………….68
Figure 4.34: Evaluation results of merakrg.org……………………………………………………69
Figure 4.35: A blank page on merakrg.org……………………………………………………………70
Figure 4.36: Visibility test result of merakrg.org……………………………………………………71
Figure 4.37: Evaluation results of momt-krg.org……………………………………………………72
Figure 4.38: Visibility test result of momt-krg.org…………………………………………………73
Chapter 1 Introduction

1.1 Introduction

For the last three decades, information and communication technologies (ICTs) have been developing at a rapid pace. This rapid development of ICTs has introduced many solutions that have made the world more connected and life much easier. One of the most recognized inventions in the ICTs field was the internet. The invention of the internet has changed human life in many perspectives as it has many advantages associated with its use.

The internet can be considered the largest information repository where information of different types is shared and communicated at a cheap price. It has changed the traditional methods of conducting business and transactions. It has also motivated businesses to provide their products and services online in order to broaden their markets and reach a larger number of customers. Moreover, it has encouraged many governments to have presence online and provide their services to their citizen online.

The use of ICTs or the internet in a governmental context is usually referred to as E-Government

There is not a single definition for E-Government in literature and different researchers define it differently. For example, Heeks et al. (2003:2) define E-Government as

“The use of information and communication technologies (ICTs) to improve the activities of public sector organizations – brings with it the promise of greater efficiency and effectiveness of public sector operations”.

In another study, McClure (2000:3) defines E-Government as

“A government’s use of technology, particularly web-based Internet applications, to enhance the access to and delivery of government information and service to citizens, business partners, employees, other agencies, and government entities”.

8
Berntzen and Olsen (2009:77) provide a simpler and broader definition of E-Government; they defined it as “the use of technology to provide electronic services to citizens, businesses and organizations”.

In this study, E-Government is defined as the government’s use of ICTs, websites in particular, in providing easy access to government’s information and services to different sectors of the community such as citizens, businesses, NGO’s, and others. These sectors represent the stakeholders of E-Government who use government’s information and services.

There are different types of relationships in E-Government between the governments and their stakeholders. Esteves and Joseph (2008) summarize the main relationships in E-Government which are G2C (Government to Citizens), G2E (Government to Employees), G2B (Government to Businesses), and G2G (Governments to Governments). In another study about E-Government, Montagna (2005) defines more types of relationships in E-Government context which are G2C (Government to Citizen), G2B (Government to Business), G2G (Government to Government), G2NGO (Government to Non-Governmental Organizations) and G2NPO (Government to Non-Profit Organizations).

As governments use websites to provide their information and services to a wide range of audiences, they should maintain the quality of their websites. The quality of government websites is maintained by evaluating it from time to time against generally accepted benchmarks in order to identify the existing problems and solve them accordingly.

Evaluating government websites has become a very interesting research area for a lot of researchers and many studies have been conducted consequently. The majority of the studies have evaluated government websites of developed countries. Whereas, there have been a small number of studies about evaluating government websites of developing countries. As a result, most of the criteria proposed in the E-Government’s literature for evaluating government websites are designed for evaluating websites of
developed countries. These criteria may not be appropriate for evaluating developing countries websites since there are many challenges and obstacles that impede the development and implementation of E-Government in developing countries.

This study assesses the effectiveness of Kurdistan Regional Government’s (KRG) websites in providing appropriate government information and services to Kurdish citizens and foreigners. In recent years, the KRG has invested in developing a number of websites as information gateways to the world and Kurdish citizens in particular. Since the launch of its websites, the KRG has not conducted any evaluation to measure the performance of its websites in providing information and services to its audience. Evaluating government websites in the Kurdistan Region is a very interesting subject and will contribute toward the development of KRG’s websites. For more information about the Kurdistan Region, see Appendix 1.

1.2 Aims and Objectives

The main aim of this study is to assess the current state of a number of KRG websites in providing access to government information and services. Another central aim is to contribute towards improving the quality and effectiveness of these websites.

The aims of this study can be achieved by accomplishing a number of objectives. The first objective is to survey the literature, discuss and assess a number of existing studies that have proposed evaluation criteria for evaluating government websites. The second objective is to develop a customized set of criteria that is suitable for evaluating the KRG websites based on the existing criteria in the literature. The new set of criteria will include a number of criteria that are most frequently mentioned in the literature and appropriate for evaluating KRG’s websites. The third and last objective is to evaluate a number of KRG’s websites according to the customized evaluation criteria developed. The evaluation results are assumed to reveal the strengths and weaknesses of the websites and help the KRG to improve its websites on this basis.
1.3 Dissertation Structure

This dissertation consists of five main chapters. The first chapter gives an introduction about the topic and sets out the aims and objectives of the study. The second chapter is a literature review in the E-Government field regarding the evaluation criteria and methodologies used in similar studies. The third chapter explains the research methods used in conducting this study. The fourth chapter covers the results and findings of this study. Lastly, the fifth chapter provides a conclusion about the findings and covers the limitations.
Chapter 2 Literature Review

2.1 Introduction

This chapter reviews the current literature in E-Government area of study and identifies the most relevant sources. This literature review consists of four main sections. The first section is a review of literature regarding the existing criteria for evaluating government websites. The second section examines the techniques and methods used in evaluating government websites. The third section discusses E-Government in the Kurdistan Region’s context. Finally, the fourth section highlights the main challenges and barriers that impede E-Government implementation in developing countries.

2.2 Government Websites Evaluation Criteria

A survey of literature reveals many evaluation criteria that have been developed for evaluating government websites. These criteria evaluate certain aspects of websites to obtain an overall image of the quality of government websites. This section reviews a number of studies that have proposed criteria for evaluating government websites and assesses their strengths and limitations.

In assessing the US Government websites, Eschenfelder, Beachboard, McClure and Wyman (1997) developed a number of criteria which are grouped under two main categories namely Information content and Ease of use. Each of these two categories includes criteria that evaluate certain aspects of government websites. For example, the criteria in Information content category evaluate aspects related to the quality of information and services provided on government websites such as currency, accuracy, services, bibliographic control and privacy. Whilst the criteria in Ease of use category evaluate aspects related to the usability of the websites such as design, navigability, feedback mechanisms, and accessibility.

Eschenfelder et al. (1997)’s criteria are considered the earliest for evaluating government websites and have been used in many other studies. For example, Cullen &
Houghton (2000) applied Eschenfelder et al. (1997)’s criteria in their evaluation of New Zealand Government websites with few modifications made to the criteria. As these criteria were developed in 1997 and much development has happened on the web since then, a number of modifications may be necessary to be made before using them. Smith (2001) also used Eschenfelder et al. (1997)’s criteria and found that some changes were necessary. He argues that (Eschenfelder et al., 1997)’s criteria did not include a criterion for evaluating site wide search engines and he added that criterion to it. He also rearranged and renamed some of (Eschenfelder et al., 1997)’s criteria.

In a study about evaluating European ministries’ websites, Ataloglou & Economides (2009) reviewed and criticized a wide range of previous studies that proposed evaluation criteria for government websites. They argue that some of the criteria proposed in these studies have limitations. They summarized the limitations of previous studies criteria in three main points which are high implementation cost, need for special equipments for application and negligence in considering citizens with special needs. Hence, they developed an evaluation framework called (eGovQual) which consists of 100 criteria. They categorized the 100 criteria under 13 main categories which are “Content, Presentation – Media – Format, User Interface, Structure & Organization, Navigation, Orientation, Interactivity & Feedback, Services – Functions – Facilities – Operations – Applications, Reliability & Availability, Maintainability, Performance, Openness – Compatibility – Interoperability, and Security” (Ataloglou & Economides, 2009: 151).

It is evident that eGovQual provides a comprehensive and rigorous framework for evaluating government websites. Nevertheless, applying 100 criteria to evaluate websites takes a long time and requires many personnel to conduct the evaluation.

In another study about evaluating public authorities' websites, Panopoulou, Tambouris, & Tarabanis (2008) propose an evaluation framework that employs a holistic approach. The proposed framework consists of four categories namely general characteristics, e-content, e-services and e-participation. Each of these four categories consists of a number of criteria providing a comprehensive evaluation framework. The general characteristics category evaluates aspects such as accessibility, privacy, multilingualism,
public outreach and navigation. While the e-content category assesses the information content’s accuracy and currency. The e-services category evaluates services provided by a website and their development level. Finally, the e-participation category evaluates features that enable citizens to interact with the government and involve them in decision making. One of the most recognizable criteria in this framework is multilingualism, which is not covered in the other studies. It is important to include this criterion particularly when assessing government websites in countries where more than one language is used.

Moreover, in evaluating the Scottish Government website, Bell, Hamilton, Carson, McNab, & Booth, (2010) used a benchmarking system that consisted of a number of criteria. The criteria included aspects such as technicality, design, navigation, content, and engagement. Arguably, this benchmarking system is an appropriate system for evaluating government websites regardless of the fact that it does not include a criterion for evaluating services.

It can be argued that some of the criteria proposed in the studies discussed earlier evaluate aspects that are not appropriate for evaluating government websites of developing countries. This is because there are many barriers that impede E-Government implementation in developing countries (Reffat, 2003). For example, evaluating aspects such as e-participation proposed by Panopoulou et al., (2008) may not be suitable for evaluating websites of some developing countries which has not reached advanced levels of E-Government implementation yet.

For the above reason, UNESCO has developed an assessment toolkit specifically for government websites of developing countries (Ornager & Verma, 2005). UNESCO’s assessment criteria have been categorized under five categories which are Design & Layout, Architecture, Content, Accessibility & Reliability and Navigation. It can be noted that the criteria proposed in UNESCO’s toolkit cover simple aspects of websites than advanced ones.
After reviewing the above studies, it can be concluded that there are a number of criteria that are repeated and used by many researchers in evaluating government websites. Hence, it is assumed that these criteria are the most reliable ones to be used in evaluating government websites. As a result, a customized set of criteria has been developed to evaluate a number of KRG’s websites based on the criteria proposed in E-Government literature. The new customized set of criteria only evaluates simple and fundamental aspects of government websites.

2.3 Techniques and Methods used in Evaluating Government Websites

Websites

There is not a single technique or method for conducting government websites evaluation and researchers have used different methods in their studies (Mofleh & Wanous, 2009). The UNESCO’s E-Government toolkit for developing countries introduced a number of evaluation techniques and methods for assessing government websites (Ornager & Verma, 2005). These techniques are the following:

Lab Testing: This is carried out through selecting a group of users and inviting them to a computer laboratory. The users will be asked to do certain tasks on the websites, searching for specific information for instance. Observation will be carried out to record the users’ behavior. By analyzing users’ behavior the performance and accessibility of the websites are assessed.

Online User Surveys: These are surveys that pop-up when users visit websites. These kinds of surveys can include different types of questions that are set up by the website managers. The main advantage of this technique is that it allows surveying a large number of users in a short time.

Interviewing Focus Groups: This technique involves selecting a focus group from a population of website users with a moderator who runs the group. The moderator will
either ask users a set of prepared questions about the websites or ask them to do certain tasks on the websites. This kind of interview can be performed either face to face or online through video conferencing.

**Syndicated Surveys:** In this method, evaluators need to buy access to surveys data from third parties. These third parties can be internet service providers or any parties that collect users’ data when visiting certain websites.

**Informal User Feedback:** This method involves analyzing the informal feedback received from websites visitors. These feedbacks can be sent by users through emails, feedback forms or telephone. These kinds of feedback help website managers to review the problems reported by users and fix them accordingly.

**Usage Data Analysis:** This technique involves analyzing the web log data collected on web servers. Users’ data is usually collected on servers when users visit different websites. This data helps government departments in discovering trends on their websites.

**Web Performance Data:** This technique involves using specialized tools in evaluating technical aspects of websites. Aspects such as download time, number of broken links, and accessibility features are assessed.

**Heuristic Analysis:** This is an important method for evaluating websites. It involves assessing a website against a number of pre-defined parameters. These parameters cover different aspects of the website. This kind of evaluation is usually carried out by experts or individuals who have experience in web development.

Moreover, Wood et al. (2003) suggest using the same evaluation techniques as UNESCO’s for evaluating government websites. Nevertheless, Bauer and Scharl (2000) assert on the importance of using software tools for evaluating websites; tools that automatically classify and evaluate websites. They argue that these software tools are
more objective than human evaluators and are more efficient as they allow fast evaluation of hundreds of websites. However, it can be argued that those software tools can only evaluate technical aspects of a website not the information quality or service quality parts of it.

In a study about evaluating South Africa Government websites, Korsten and Bothma (2009) concluded that using a single method is not sufficient in evaluating government websites. Similarly, Wood et al. (2003) suggest that using a multidimensional approach in evaluating government websites provides more complete and accurate results. In addition, Ellin et al. (2012) recommend using lab testing techniques alongside online user surveys and web log data in order to find more reliable results in website evaluations.

Mofleh and Wanous (2009) found that internet based methods are very efficient and effective for evaluating government websites. They suggest four internet based methods for assessing government websites: “Visibility analysis, Usability analysis, Stage analysis, Government user replication ,and specialized websites for website analysis”(Mofleh & Wanous, 2009). These methods can be regarded as very reliable and effective methods for evaluating government websites since they are simple, cheap and do not take long time to be applied.

Furthermore, Panopoulou et al. (2008) used a questionnaire in evaluating Greek Government websites. The questionnaire covered all the metrics of the suggested framework and each item of the questionnaire was awarded a score between 0 and 10. The questionnaire was answered by one evaluator who was an expert in the field.

It can be concluded that there are various methods and techniques for evaluating government websites. Nonetheless, there is no agreement on which methods or techniques are the best to conduct an evaluation. Thus, there is no restriction on what methods to use in conducting an evaluation. Generally, the budget, time and skills available for conducting a study determine the types of methods to be used.
2.4 E-Government in the Kurdistan Region’s Context

Regarding E-Government in the Kurdistan Region, there has been little research performed. As a result, there is a clear gap in the literature concerning E-Government in the Region. Nevertheless, the study by Shareef, Pimenidis, Johnnes, & Jahankhani (2010) sheds light on the initiatives of E-Government in the Region. The study gives a short history regarding the first steps of the KRG toward E-Government implementation. It also reports that the first KRG website was launched in 2003 aiming to be an information gateway for providing government news and information.

Khayyat (2009) criticizes the current ICT infrastructure of the KRG and the way ICTs are used in running the government. He also discusses the situation of public services in the Kurdistan Region and asserts that most of the public services are delivered in an old fashion, bureaucratic and low quality manner. He identifies two reasons as the main causes of poor quality of public service provision in the Kurdistan Region. The first reason is lack of transparency and accountability from the individuals who are running the governmental organizations. The second reason is the low income or budget of the KRG.

It is evident that most of the challenges and barriers mentioned in the study by (Reffat, 2003) are similar to those currently facing the KRG in its current attempts to implement E-Government. It is thus important for the KRG to address and resolve any issues that impede the implementation of E-Government before investing further money in E-Government projects, developing websites in particular.

2.5 Challenges Facing E-Government in Developing Countries

There are many issues that need to be considered before implementing E-Government in developing countries. Schuppan (2009) maintains that transferring E-Government concepts from developed countries to developing countries is inappropriate as there are different cultural and infrastructural contexts that need to be considered. It is evident that E-Government helps in reducing administrative tasks and bureaucracies. Nevertheless, if
certain cultural and administrative issues are not taken into account, E-Government may result in failure.

Ndou (2004) lists a number of barriers and challenges that impede the successful implementation of E-Government in developing countries. These challenges have been identified and discussed in many other studies about E-Government in developing countries. The main challenges are the following:

**ICT infrastructure**: This is one of the main challenges in E-Government implementation as it provides the basis on which E-Government is built. ICT infrastructure covers all the technological and telecommunication facilities a government has for connecting its departments and organizations. There are many developing countries that have poor ICT infrastructure which is a main challenge in implementing E-Government in those countries (Ndou, 2004; Reffat, 2003; Ghosh & Arora, 2005; Alam, 2007; Falabi, 2007).

**Policy issues**: Implementing E-Government requires issuing new laws, policies and regulations in order to address electronic activities. As there are many electronic activities in E-Government such as electronic archiving and electronic signature, there is a need for laws that protect this digital information. Many developing countries do not have laws protecting digital information which is a big barrier in implementing E-Government (Ndou, 2004; Reffat, 2003; Falabi, 2007).

**ICT skills**: Having qualified ICT personnel in government is essential to the successful implementation and management of E-Government. Many developing countries lack ICT skills in their governmental organizations. Without qualified ICT personnel, it is not possible to implement E-Government successfully. In a study about E-Government in Ghana, Awotwi & Owusu (2007) identify e-illiteracy as one of the main factors that affect E-Government implementation. In another study about E-Government in Lagos, Falabi (2007) found that a large number of computers given to government employees
resulted in a big waste of resource for the government. That is because the employees lacked required ICT skills to use those devices.

**Change management:** This is another challenge that must be addressed in E-Government projects. E-Government introduces new processes and procedures within the government that require significant change in work practices. It also affects hierarchies in government as information will flow among different departments without going through certain people to acknowledge it. This will result in resistance by many people within the governments of developing countries as there are many hierarchies and high levels of bureaucracy in these countries (Ndou, 2004; Ghosh & Arora, 2005).

**Partnership and collaboration:** Partnership and collaboration must exist between public and private sectors in a country in order to implement E-Government successfully. Private sector companies and universities can provide the government with highly skilled employees and researchers to help in E-Government projects (Ndou, 2004). Nevertheless, in many developing countries, such collaboration and partnership do not exist because of lack of transparency and high level of corruption in the governments.

**Strategy:** Governments must have rigorous and well focused E-Government strategies in order to overcome the barriers that will arise when implementing E-Government. As E-Government will introduce many new concepts and changes in government’s work practices, it is important to have a strategy and a contingency plan when implementing E-Government. Lack of strategy is one of the common reasons that result in E-Government failure in developing countries.

From the challenges mentioned above, it can be concluded that E-Government requires giving careful consideration to a wide range of issues before implementing it. Governments need to establish rigorous E-Government strategies that address all the issues related to E-Government implementation. Moreover, E-Government evaluation should be addressed in the strategies in order to measure the development of E-
Government periodically. However, when evaluating E-Government in developing countries is concerned, there are many aspects which need to be evaluated differently. That is because of all the challenges mentioned above that are facing developing countries in implementing E-Government.

### 2.6 Conclusion

In conclusion, this literature review covered the main issues relevant to the study. It identified and discussed a number of studies that proposed criteria for evaluating government websites. It also reviewed the methods and techniques used by researchers in evaluating government websites. In addition, it discussed E-Government in the Kurdistan region’s context and relevant issues to E-Government implementation in the region. Finally, it highlighted the challenges that face developing countries in implementing E-Government and discussed them briefly. The next chapter explains the methods used in conducting the study.
Chapter 3 Methodology

3.1 Introduction

This chapter covers the research procedure and methods used in undertaking this study. Firstly, it starts with describing the research procedure followed to carry out the study. Then, it identifies and explains the methods used for selecting a sample of KRG websites to be evaluated. After that, a customized set of criteria for evaluating the websites is presented. Later, the people chosen to participate in the study are briefly described. Lastly, the methods used in data collection and analysis are explained.

3.2 Research Procedure

In any research, it is vital to define a procedure and follow it. A procedure consists of a series of steps that are taken in carrying out a study in order to achieve the results. In this study, the research procedure followed was the following; First of all, three instruments were selected and used to shortlist a number of KRG websites to be evaluated. Then, based on the literature review carried out earlier, a customized set of criteria was developed. The customized set of criteria includes criteria that are appropriate for evaluating government websites of developing countries. After that, the customized set of criteria was turned into a questionnaire for conducting the evaluation.

Before conducting the evaluation, a pilot study was carried out and many amendments were made to the questionnaire in order to make it clearer. Later, the researcher himself evaluated the selected websites using the questionnaire. Then, a group of IT graduates were asked to participate in the study based on their experience. The graduates were recruited in the study in order to ensure the objectivity of the evaluation. After finishing the evaluation by the researcher and the participants, evaluation data about the websites were collected and analyzed.
3.3 Selecting the websites to be evaluated

Evaluating government websites generally requires a long time particularly when evaluating a large number of websites of a developing country. This is because there are likely to be many malpractices on government websites of developing countries that need to be identified and highlighted. Time is one of the main constraints in conducting website evaluation; therefore, if there is a limited time, there is a need to select a reasonable number of websites to evaluate. Researchers have various justifications for selecting government websites to evaluate. For example, in a study about investigating the usability of government websites in Uganda, Asiimwe & Lim (2010) selected four ministry websites to evaluate because of the focus areas of those ministries. Nevertheless, in a study about evaluating government portals in Asia, Jati & Dominic (2009) selected five government portals because they were considered leaders in Asia.

As the KRG has many websites but there was only a limited time for conducting the current study, it was found that there is a need to select a reasonable number of websites to evaluate. For that reason, three methods were used. These methods were a questionnaire, traffic rank and PageRank. First of all, a questionnaire was prepared and posted on the famous social networking site of facebook. The questionnaire was posted on a number of Kurdish groups and pages of facebook that have thousands of members. It included one question which asked the members about the KRG websites they visit. The KRG websites were all listed in the questionnaire and the members were asked to choose the websites they visit. The questionnaire was open for two weeks and 100 responses were collected. The results of the questionnaire are illustrated in figure 3.1.
Figure 3.1: KRG websites visitors’ percentage

Form the questionnaire’s results; it can be observed that the respondents only visit 8 websites of the KRG. However, it can be argued that these results do not represent a big population as only 100 responses were collected.

For the above reason, a second method was used to shortlist the KRG websites. The second method is called Traffic rank. Traffic rank shows the ranking and popularity of a website based on how much traffic the website gets in comparison to all other websites on the internet. In order to find KRG websites’ traffic ranks, Alexa (www.alexa.com) was used. Alexa is a well-known website that provides traffic data, global rankings and other information about websites. Alexa has been used in other studies for selecting websites. For example, in their study about accessibility of websites through time, Hackett et al. (2004) used Alexa to find a list of the Top 500 ranked websites on the internet. Alexa was also used by Zhu et al. (2007) in their study about application of evaluation criteria for Chinese E-Government websites.
Alexa’s traffic ranking is determined through the data collected from its toolbar users. Alexa has a toolbar that collects data from users who have installed the toolbar on their internet browsers. Every time the users visit a web page, the toolbar collects data about that page and sends the data regarding that page to Alexa’s database. The criticism of Alexa is that it collects data regarding the web pages only from users who have Alexa’s toolbar installed on their web browsers. Therefore, it can be argued that Alexa’s traffic rank results may be biased. Hackett et al. (2004) discuss the subjectivity of Alexa’s ranking and assert that the top ranked websites from Alexa are biased toward commercial websites. In order to avoid bias in this study, Alexa was used beside the questionnaire and another method to shortlist KRG websites.

The third method used for selecting KRG websites to be evaluated was PageRank. PageRank is “a method for computing a ranking for every web page based on the graph of the web” (Page, Brin, Motwani, & Winograd, 1999: 2). This method is used by Google which assigns numerical values to web pages based on the number of hyperlinks pointing to those pages. The numerical values represent the importance and weight of the web pages among other pages on the web. The higher the rank of a website is, the more weight and importance it gains. A website called Page rank checker (www.pagerankchecker.info) was used to find PageRank of KRG websites. See Appendix 2 for the traffic rank and PageRank of KRG websites.

The three methods mentioned above allowed us to identify the KRG websites that have more visitors, more weight and importance. Based on the results gained from the three methods used, it was decided to select the KRG websites that gained votes in the questionnaire and have the highest traffic rank and PageRank. As a result, eight websites among the KRG websites were selected to be evaluated. The selected websites are listed in Table 3.1.
### Table 3.1: The selected KRG websites to be evaluated

<table>
<thead>
<tr>
<th>Organization Title</th>
<th>URL</th>
<th>Traffic Rank</th>
<th>PageRank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kurdistan Regional Government</td>
<td>krg.org</td>
<td>160,438</td>
<td>6 /10</td>
</tr>
<tr>
<td>Ministry of Higher Education and Scientific Research</td>
<td>mhe-krg.org</td>
<td>392,198</td>
<td>5 /10</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>mop-krg.org</td>
<td>1,644,190</td>
<td>5 /10</td>
</tr>
<tr>
<td>Ministry of Electricity</td>
<td>krgelectric.org</td>
<td>1,909,016</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Finance and Economy</td>
<td>mof-krg.org</td>
<td>2,138,718</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>moe-krg.com</td>
<td>2,140,094</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Endowments and Religious Affairs</td>
<td>merakrg.org</td>
<td>3,065,460</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Municipality and Tourism</td>
<td>momt-krg.org</td>
<td>6,567,312</td>
<td>4 /10</td>
</tr>
</tbody>
</table>

### 3.4 The Customized Set of Evaluation Criteria

One of the most critical parts of evaluating government websites is the evaluation criteria used. As explored in the literature review chapter, there are many studies that have proposed criteria for evaluating government websites. In this study, however, an effort has been made to develop a customized set of criteria for evaluating government websites of developing countries based on the criteria already available in the literature. The criteria were retrieved from the following studies (Eschenfelder et al., 1997; Moustakis et al., 2004; Ataloglou & Economides, 2009; Middleton, 2007; Ornager & Verma, 2005; Panopoulou et al., 2008; Bell et al., 2010). In addition, a careful selection process was conducted to select only the criteria that are applicable for evaluating KRG’s websites and government websites of developing countries.
As the majority of studies in this field have evaluated government websites of developed countries, some of the evaluation criteria proposed by these studies are not appropriate for developing countries. This is because there are many challenges that face developing countries in building government websites and implementing E-Government. Challenges such as lack of ICT infrastructure, lack of IT skills, digital divide and high level of corruption should all be taken into account when proposing criteria for evaluating government websites of developing countries. Moreover, the criteria used for evaluating these websites should assess aspects that are simple. For example, it is not appropriate to evaluate aspects such as e-participation and e-voting on government websites of developing countries.

The new customized set of criteria proposed in this study consists of 42 criteria. The 42 criteria evaluate 8 main aspects of government websites; therefore, they are grouped under the following 8 categories: Content, Navigation, Authority, Visibility, Design, Technicality, Privacy, and Services. See Appendix 3 for the new customized set of criteria and its details.

3.5 Research Methods

To date, various methods have been developed and introduced to evaluate government websites. Most of these methods have been mentioned and discussed in the literature review chapter. Some of the methods proposed in the literature are either expensive to use, need a lot of participants, or require a long time to be implemented. As there was a limited time to undertake this study, it was necessary to find a method that needs a short time for collecting data from KRG websites. It was decided that the best method to employ for this study is to design a questionnaire similar to Panopoulou et al. (2008). Questionnaires are considered one of the most effective quantitative methods for collecting data in different kinds of studies. Many researchers used questionnaires in their evaluation of government websites (Eschenfelder et al., 1997; Panopoulou et al., 2008; Bell et al., 2010).
The customized set of criteria developed for evaluating KRG websites was turned into a questionnaire. The questionnaire consisted of 46 items and covered all the criteria chosen for the study. It included 20 dichotomous items, 20 likert scales items and 6 self-scaled items. For the likert scaled items, a score of 1 - 5 was given to each item while for the dichotomous items a score of either 0 or 5 was given. The scores were given to the items based on the availability of features and quality on the websites. See Appendix 4 for the detailed questionnaire. A pilot study was also conducted for refining the questionnaire before commencing the evaluation. For more details about the pilot study, see Appendix 5.

The evaluation was conducted between 02/07/2012 to 15/08/2012. It was first conducted by the researcher himself as he has good experience in web design and development. The evaluation was performed by looking at each website thoroughly and identifying the problems on each one of them individually. As the questionnaire contained items that are subjective, it was decided to conduct the evaluation by more than one evaluator since this will allow gaining more realistic results. For that reason, four IT graduates were asked to participate in the study. The participants were asked to look at the websites and answer the questionnaire afterwards. Detailed instructions were given to the participants in order to have minimum difficulty in answering the questionnaire. The questionnaire was sent to the participants by e-mail. After completing the evaluation by all participants, the participants sent back the completed questionnaire by e-mail to the researcher. Then, the researcher analyzed the data and found the results.

The method used in this study has both advantages and disadvantages. Starting with the advantages, the questionnaire is very simple and can be used by anyone for evaluating government websites. This allows involving a bigger sample of evaluators in an evaluation which in turn neutralize the subjectivity of the results. In addition, no direct cost is included in using this method as it does not require any special tools except from web browsers which are freely available on the internet. Moreover, the new customized set of criteria allows capturing a general image of the websites’ quality as it covers many important aspects of government websites.
Regarding the disadvantages of the method used, subjectivity of the results is the main issue. This is because there are some items which are totally subjective and depend on the experience and taste of the evaluators. For example, in the criteria regarding design, there are some items which depend on the evaluators taste when it comes to evaluating them such as the suitability of the style, colors and font of the websites. There may also be many other aspects not included in the questionnaire that provide more realistic results if included.

This study conforms to the University of Sheffield’s Research Ethics Policy. The University of Sheffield’s research ethics application form was completed and sent to the assigned supervisor for approval. This research was considered as low risk and ethical approval was obtained from the supervisor.

3.6 Selecting participants for the study

It is of high importance to choose a proper sample of people to participate in a study. By choosing a proper sample of participants, the researcher will be able to gain more insights about the topic and find more realistic and objective results. In studies regarding evaluating government websites, researchers have chosen different samples of participants. For example, Ataloglou & Economides (2009) recruited seven undergraduate students for evaluating European ministries government websites. However, Panopoulou et al. (2008) employed only one experienced evaluator in their evaluation of Greece government websites.

In this study, beside the researcher himself, four Kurdish IT graduates with 5 years of experience in web design and development were involved. These graduates have worked in many website development projects and have successfully implemented the projects. The graduates know Kurdish language as their mother tongue and are fluent in both English and Arabic. Proficiency in these three languages was necessary in this study as most of the KRG websites are in three languages. The graduates were asked to carry out the evaluation and give scores to the websites using the questionnaire given to them.
Evaluating eight government websites with a large number of criteria required evaluators who have time and experience; therefore, it was decided to involve few experienced evaluators to evaluate the websites than many inexperienced ones. The experienced evaluators will provide more objective results and will identify the problems of the websites in a shorter time.

3.7 Data Analysis

In order to analyze the data collected for this study, Microsoft Excel 2007 was used to perform the calculations and find the results. Microsoft Excel is a powerful software tool that provides extensive mathematical and statistical functions. All the data collected from the questionnaire were transferred to two Excel spreadsheets in order to perform the required calculations.

In the first spreadsheet, means for all the 46 items of the questionnaire were calculated. Then, mean for each evaluation category of each website was calculated in order to find how good the website is in terms of that aspect. The categories represented different aspects of the websites such as content, navigation, services and etc. The higher the mean of a category was, the better the website had achieved in terms of that aspect. On one hand, if a website’s mean in any category was 2.5 and above, that means it performed well in that aspect. On the other hand, if a website’s mean was less than 2.5 in any category, that shows the weakness of the website in that aspect.

After finding the means for all aspects of each website, a bar chart was created for that website giving an image of which aspects the website was rated most and least effective. An overall mean for each website was also found. The same procedure was applied for all the websites.

Later, the second spreadsheet was used to find in which evaluation aspects KRG websites generally performed well in the evaluation. This time, based on the means found previously, mean for all websites in each category was found in order to give a picture of the aspects that were best and worse handled on KRG websites. This
calculation method was adapted from Cullen & Houghton (2000) in their assessment of New Zealand Government websites.

3.8 Conclusion

This chapter covered all the issues regarding the methods used in data collection and analysis of this study. It started with explaining the research procedure followed in the study. Then it identified and discussed the methods used for selecting the KRG websites to be evaluated. After that, the customized set of criteria was explained. The next chapter represents and discusses the results found in the study.
Chapter 4 Results and Discussions

4.1 Introduction

This chapter aims to illustrate and discuss the findings of this study. It is divided into two main parts. In the first part, the evaluation findings of all KRG websites are presented. This part shows the KRG websites that performed well in the evaluation and the ones that did not. It also shows and discusses the aspects that KRG websites handled best and the ones that did not. In short, this part gives an overall image of the evaluation results of all KRG websites and discusses them briefly.

In the second part of this chapter, each website’s results has been shown and discussed separately. Each website is looked at thoroughly and all the problems are identified. Moreover, all the aspects evaluated for each website are shown and discussed in detail. Screenshots of the websites have been taken where necessary in order to clarify issues in more details.

4.2 Evaluation Findings

4.2.1 Findings by Websites

The evaluation results of KRG websites were promising. The mean scores ranged between 2.38 to 4.01. The Ministry of Higher Education and Scientific Research was the top scorer with a mean of 4.01 and the Ministry of Planning came in the second place with a score of 3.51. Other websites that performed well and passed the evaluation were the Ministry of Municipality and Tourism’s website with a mean of 3.39 and the KRG’s official website which scored a mean of 3.24.

Three websites out of the eight evaluated KRG websites failed in the evaluation. Those were the websites of the Ministry of Finance and Economy, the Ministry of Education and the Ministry of Endowments and Religious Affairs. These three ministries’ websites did not achieve the passing score in the evaluation since they suffer from many issues.
Some of the issues found on these websites were serious but can be fixed easily. Figure 4.1 shows the evaluation results of the KRG websites.

![Figure 4.1: Evaluation results of the KRG websites](image)

### 4.2.2 Findings by evaluation aspects

**Content:** In the content aspect, the official website of the KRG achieved a score of 4.2 which was the highest among all KRG websites. This is because the website provides comprehensive information. Another website that did well in this aspect was the Ministry of Higher Education and Scientific Research’s website with a score of 3.88. All the other websites passed this aspect except from the Ministry of Education’s website, which scored 2.38 as it lacks content.
Table 4.1: KRG websites results in Content aspect

<table>
<thead>
<tr>
<th>Website name</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRG Official Website</td>
<td>4.2</td>
</tr>
<tr>
<td>Ministry of Higher Education and Scientific Research</td>
<td>3.88</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>3.3</td>
</tr>
<tr>
<td>Ministry of Finance and Economy</td>
<td>3.28</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>2.38</td>
</tr>
<tr>
<td>Ministry of Endowments and Religious Affairs</td>
<td>3</td>
</tr>
<tr>
<td>Ministry of Electricity</td>
<td>3.24</td>
</tr>
<tr>
<td>Ministry of Municipality and Tourism</td>
<td>3.18</td>
</tr>
</tbody>
</table>

**Authority:** A number of websites achieved very high scores in this aspect as they provide a lot of details about their particular organization. The Ministry of Planning and Ministry of Municipality came at the top with a mean score of 4.7. Other websites that achieved high scores in this aspect were the official website of the KRG with a score of 4.4 and the Ministry of Higher Education with a score of 4. On the other hand, the websites of the Ministry of Education and Ministry of Endowments and Religious Affairs did not pass this aspect and both of them scored 2.

Table 4.2: KRG websites results in Authority aspect

<table>
<thead>
<tr>
<th>Website name</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRG Official Website</td>
<td>4.4</td>
</tr>
<tr>
<td>Ministry of Higher Education and Scientific Research</td>
<td>4</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>4.7</td>
</tr>
<tr>
<td>Ministry of Finance and Economy</td>
<td>2.5</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>2</td>
</tr>
<tr>
<td>Ministry of Endowments and Religious Affairs</td>
<td>2</td>
</tr>
<tr>
<td>Ministry of Electricity</td>
<td>3.5</td>
</tr>
<tr>
<td>Ministry of Municipality and Tourism</td>
<td>4.7</td>
</tr>
</tbody>
</table>

**Navigation:** In the navigation aspect, the website of the Ministry of Planning came in the first place with a mean of 4.23 as the website provides easy to use navigation and many other features that have improved its navigation. The Ministry of Higher Education came in the second place with a mean of 4.06.
Three websites did not pass the evaluation in this aspect. These were the Ministry of Endowment, Ministry of Electricity and Ministry of Education. This is mainly because these websites suffer from many navigation problems such as navigation errors, broken links, or missing pages. Moreover, these websites do not provide sitemaps or search functions to facilitate navigation for users.

Table 4.3: KRG websites results in Navigation aspect

<table>
<thead>
<tr>
<th>Website name</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRG Official Website</td>
<td>3.35</td>
</tr>
<tr>
<td>Ministry of Higher Education and Scientific Research</td>
<td>4.06</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>4.23</td>
</tr>
<tr>
<td>Ministry of Finance and Economy</td>
<td>2.5</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>1.43</td>
</tr>
<tr>
<td>Ministry of Endowments and Religious Affairs</td>
<td>1.67</td>
</tr>
<tr>
<td>Ministry of Electricity</td>
<td>1.3</td>
</tr>
<tr>
<td>Ministry of Municipality and Tourism</td>
<td>3.24</td>
</tr>
</tbody>
</table>

**Visibility:** The evaluation results in this aspect were promising since all KRG websites passed it. Five websites achieved a mean of 5 as they appeared as the first results on the first page of the search engines used in the study. The Ministry of Finance and Economy was the lowest scorer with a mean of 3 as it did not appear on the search engines when searched for in English language.

Table 4.4: KRG websites results in Visibility aspect

<table>
<thead>
<tr>
<th>Website name</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRG Official Website</td>
<td>5</td>
</tr>
<tr>
<td>Ministry of Higher Education and Scientific Research</td>
<td>5</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>4.33</td>
</tr>
<tr>
<td>Ministry of Finance and Economy</td>
<td>3</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>5</td>
</tr>
<tr>
<td>Ministry of Endowments and Religious Affairs</td>
<td>5</td>
</tr>
<tr>
<td>Ministry of Electricity</td>
<td>5</td>
</tr>
<tr>
<td>Ministry of Municipality and Tourism</td>
<td>5</td>
</tr>
</tbody>
</table>
**Technicality:** Regarding the technicality aspect, all the KRG websites passed it with good scores. None of the websites faced any compatibility issues in the evaluation and they are all compatible with different web browsers. Most of the websites have fast speed of response using different internet speeds.

Table 4.5: KRG websites results in Technicality aspect

<table>
<thead>
<tr>
<th>Website name</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRG Official Website</td>
<td>4.75</td>
</tr>
<tr>
<td>Ministry of Higher Education and Scientific Research</td>
<td>4.6</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>4.7</td>
</tr>
<tr>
<td>Ministry of Finance and Economy</td>
<td>4.65</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>3.85</td>
</tr>
<tr>
<td>Ministry of Endowments and Religious Affairs</td>
<td>3.95</td>
</tr>
<tr>
<td>Ministry of Electricity</td>
<td>4.75</td>
</tr>
<tr>
<td>Ministry of Municipality and Tourism</td>
<td>4.65</td>
</tr>
</tbody>
</table>

**Design:** All KRG websites passed in this evaluation aspect and achieved good scores. The official website of the KRG achieved the highest score which is a mean of 4.26. The website has a very professional design. Also, the style, colors and fonts used on the website are all appropriate and consistent. The results of the other KRG websites were all similar and ranged between 2.93 and 3.86.

Table 4.6: KRG websites results in Design aspect

<table>
<thead>
<tr>
<th>Website name</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRG Official Website</td>
<td>4.26</td>
</tr>
<tr>
<td>Ministry of Higher Education and Scientific Research</td>
<td>3.6</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>3.46</td>
</tr>
<tr>
<td>Ministry of Finance and Economy</td>
<td>3.43</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>2.93</td>
</tr>
<tr>
<td>Ministry of Endowments and Religious Affairs</td>
<td>3.43</td>
</tr>
<tr>
<td>Ministry of Electricity</td>
<td>3.46</td>
</tr>
<tr>
<td>Ministry of Municipality and Tourism</td>
<td>3.86</td>
</tr>
</tbody>
</table>

**Privacy:** The majority of KRG websites failed in this evaluation aspect regardless of the Ministry of Higher Education and Scientific Research’s website which achieved a mean
of 5. The reason behind the failure is that none of the websites provide any information about their privacy policies or terms of use. However, the Ministry of Higher Education and Scientific Researcher’s website achieved the highest score as it provides comprehensive information about these issues.

Table 4.7: KRG websites results in Privacy aspect

<table>
<thead>
<tr>
<th>Website name</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRG Official Website</td>
<td>0</td>
</tr>
<tr>
<td>Ministry of Higher Education and Scientific Research</td>
<td>5</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>0</td>
</tr>
<tr>
<td>Ministry of Finance and Economy</td>
<td>0</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>0</td>
</tr>
<tr>
<td>Ministry of Endowments and Religious Affairs</td>
<td>0</td>
</tr>
<tr>
<td>Ministry of Electricity</td>
<td>0</td>
</tr>
<tr>
<td>Ministry of Municipality and Tourism</td>
<td>0</td>
</tr>
</tbody>
</table>

**Services:** Four websites failed in the services aspect since they do not provide any services. However, the four other websites provide few services but either without descriptions of the services or the services are difficult to find. The websites of the Ministry of Planning, Ministry of Higher Education, Ministry of Education, and Ministry Municipality and Tourism are the only websites that provide services. The Ministry of Planning was the best scorer in this criterion with a mean of 3.4 since it provides some services with description about their use.

Table 4.8: KRG websites results in Services aspect

<table>
<thead>
<tr>
<th>Website name</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRG Official Website</td>
<td>0</td>
</tr>
<tr>
<td>Ministry of Higher Education and Scientific Research</td>
<td>1.95</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>3.4</td>
</tr>
<tr>
<td>Ministry of Finance and Economy</td>
<td>0</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>1.95</td>
</tr>
<tr>
<td>Ministry of Endowments and Religious Affairs</td>
<td>0</td>
</tr>
<tr>
<td>Ministry of Electricity</td>
<td>0</td>
</tr>
<tr>
<td>Ministry of Municipality and Tourism</td>
<td>2.5</td>
</tr>
</tbody>
</table>
4.3 Detailed Evaluation of KRG websites

4.3.1 The official website of the KRG (www.krg.org)

This is the main website of the Kurdistan Regional Government where information and news about the government’s activities are published. This website offers general information about the Kurdistan Region of Iraq such as geography, history, culture, and many other topics. The website achieved good results in some aspects of the evaluation; however it didn’t achieve good scores in few categories. Figure 4.2 shows the evaluation results for the website:

![Figure 4.2: Evaluation results of krg.org](image)

**Content:** In terms of content, the website achieved a mean of 4.2 which is a very good result. This is because the website provides extensive content of good quality. The content is generally useful but oriented toward foreigners not Kurdish citizens. It is also relevant to the subject of the website and is up to date with publishing dates provided. Moreover, the content is provided in three languages and is consistent in all the three languages. The content has right spelling and grammar, but few mistakes are evident. In addition, the images provided on different pages of the site are of good quality; however most of them are small in size.
**Authority:** In terms of authority aspect, the website achieved a mean of 4.4 which is an excellent result. The website provides a lot of information about the Kurdistan Regional government and its structure. It also provides the name of all the members of the cabinet with their biographies. This is a very good practice on this site that has enhanced its credibility.

**Navigation:** Regarding the navigation aspect, the website achieved a score of 3.35. This is considered a good score but is not as good as the other categories scores. This is mainly because the website’s navigation features are not very easy to use. The colors used in designing some of the navigation buttons are confusing since they have the same color as the website’s background color.

Figure 4.3: Navigation difficulty on krg.org

Moreover, the website does not provide a sitemap in order to help users find their ways in the website. Sitemap is a must have feature particularly in such an official website.

Other navigation aspects in which the website achieved good results were the customized Google search feature provided and the absence of navigation errors, missing links and under construction pages. The website also allows returning to home page by clicking on the logo at the top of all pages throughout the website.

**Visibility:** In the visibility test, the website achieved a score of 5. The website was searched for using three search engines and it appeared as a first result on all of them. Additionally, the website was found as the first result when searched for in all the language provided which are English, Kurdish and Arabic. The terms used in the search
process were (Kurdistan Regional Government, حكومة إقليم كردستان).

Figure 4.4: Visibility test results of krg.org

**Technicality:** The website achieved a high score of 4.75 in this aspect. It was tested on three web browsers which were Internet Explorer, Mozilla Firefox and Google Chrome in order to test its compatibility with them. The website was compatible with all the web
browsers and no issues were addressed. The download speed of the website was also very good using different internet speeds and web browsers.

**Design:** In terms of design, the website achieved a mean of 4.26. The website’s design is very formal and professional. Consistent use of style, colors, and font was another positive aspect about this website. The pages have appropriate length and are uncluttered. The organization’s logo appears on all pages of the website.

In terms of privacy, the website does not provide information regarding the privacy policies or terms of use. This is a very serious issue in government websites and such information should be provided in order to ensure users that their personal information is not tracked while using the website. Another poor aspect of the website is that it does not provide any services for citizens. The website is just an informational site without any services.

### 4.3.2 Ministry of Higher Education and Scientific Research’s website

([www.mhe-krg.org](http://www.mhe-krg.org))

This website is one of the most visited websites of the KRG according to Alexa. The main aim of this website is to provide information and services regarding higher education studies in the Kurdistan Region and abroad. This website performed very well in the evaluation. It gained an overall mean of 4.01, which was the highest among all the websites evaluated in this study. Figure 4.5 illustrates the evaluation results of this website.
Content: This website scored a mean of 3.88 in the content aspect, which is a very good result. The content is generally useful and relevant to the subject of the website. The website provides information about the activities of the ministry and information that is related to higher education studies in the region. The website provides its content in three languages which are Kurdish, English and Arabic. The Kurdish pages of the site are updated more frequently than the pages in English and Arabic. Nonetheless, most of the content provided in Kurdish can still be found in the other languages. The content is very up to date in Kurdish language and regularly updated in Arabic and English. Moreover, the content has right spelling, syntax and grammar in all the languages provided, but few mistakes still exist.

There are some issues regarding the content of this site. Firstly, the heading names are somehow not clear. For example, on the main navigation bar, the meaning of “Quality” and “Returning to KU.R” is not clear. In addition, there is a difference in the number of links provided on the main navigation bar. There are 10 links on the Kurdish and Arabic pages while there are only 9 on the English one. The following figure shows the problems with the headings:
Figure 4.6: Problems with headings of mhe-krg.org

Another problem with this site is that there are contents published in a language different from the language of the page they are published on. For example, a Kurdish content appears on English or Arabic pages. The following figure illustrates the problem:
Regarding the images used on the website, they are generally of good quality. However, on the gallery page of the site, there are a number of albums which do not include any photos.
**Authority:** The website handled the authority aspect very well and achieved a score of 4 in it. This is because it provides comprehensive information about the ministry’s functions and strategy. It also provides information about the responsibilities and biographies of the people running the ministry. However, on some pages, the authority section is left without any information. The figure below illustrates the problem:

![Figure 4.9: Lack of information on mhe-krg.org](image)

The website provides different types of contact information on the Kurdish version of the site. However on the Arabic and English versions, only a form is provided in order to contact the ministry.

**Navigation:** In the navigation aspect, the website performed very well and scored 4.06. This is because there are no navigation errors, broken or missing links on the website. The website also provides a search feature that makes searching easier within the website. Generally, navigation within the website is easy and the navigation features are located in the proper positions. Moreover, the website provides a sitemap but the sitemap is not implemented correctly and provides links to few pages only as illustrated in figure 4.10. One navigation problem of the site is that there are many links on the site that refer to web pages with no information as shown in figure 4.11.
Figure 4.10: Sitemap problem of mhe-krg.org

Only these links are provided on the sitemap

Figure 4.11: A page without any information on mhe-krg.org

No information is provided
Visibility: In terms of visibility, the website performed very well and scored 5. The website was found as the first result on all the search engines used in the evaluation. The website appeared as the first result when searched for in all the three languages provided. The terms used in the test were (Ministry of Higher Education Kurdistan, وزارت‌التعليم‌العالي‌كوردستان).

Figure 4.12: Visibility test results of mhe-krg.org

Google

Search

Web
Images
Maps

| Ministry of Higher Education
www.mhe-krg.org
In line with agreement between DAAD and the Ministry of Higher Education in Kurdistan Region, regarding HCDP candidates who have not been able to get ...

Bing

| Ministry of Higher Education
www.mhe-krg.org
In line with agreement between DAAD and the Ministry of Higher Education in Kurdistan Region, regarding HCDP candidates who have not been able to get offers from a...

Yahoo!

Also try: ministry of higher education kurdistan region, more...

| Ministry of Higher Education
In line with agreement between DAAD and the Ministry of Higher Education in Kurdistan Region, regarding HCDP candidates who have not been able to get offers from a...

www.mhe-krg.org - Cached
**Technicality:** The website scored 4.6 in technicality aspect. It was visited using the three web browsers used in the test. The website did not encounter any issues and was compatible with the three web browsers. In terms of downloading speed, the website is good but sometimes becomes slow.

**Design:** The website scored 3.6 in the design aspect. The style, colors and fonts used on the website are suitable. However, different colors should not have been used in designing the different languages pages. Generally, the pages have appropriate length and are uncluttered. The logo of the ministry is visible on all the pages and is placed in a very appropriate position. Overall, the site is well designed but there is room for further development.

**Privacy:** The website scored 5 in the privacy aspect since it provides comprehensive information about its privacy policies and terms of use. On the website, it is explicitly stated that the website collects some personal information of users. This has enhanced the reliability of the website as it tells the users what information is collected about them.

**Services:** In terms of services, the website scored 1.95. The website provides few services for Kurdish citizens. The services include an online application system for KRG scholarships, an online application for enrollment into Kurdistan Region’s universities, and a number of electronic application forms for different purposes. Some of these services are available only when scholarship programs are announced or during graduation time of high school students. The services are working well however they are difficult to find on the website and no description regarding their use is provided.

### 4.3.3 Ministry of Education’s website (www.moe-krg.org)

This website is run by the Ministry of Education of the KRG which is the main body responsible for the educational system in the Kurdistan Region. The website did not achieve good results in the evaluation since it has many problems that need to be
addressed in detail. The overall mean of the website was 2.44, which is lower than the passing score of the evaluation. Nevertheless, the website achieved good scores in some aspects such as visibility and design. Figure 4.13 illustrates the evaluation results of the website.

Figure 4.13: Evaluation results of moe-krg.org

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>2.38</td>
</tr>
<tr>
<td>Authority</td>
<td>2.00</td>
</tr>
<tr>
<td>Navigation</td>
<td>1.43</td>
</tr>
<tr>
<td>Visibility</td>
<td>5.00</td>
</tr>
<tr>
<td>Technicality</td>
<td>3.85</td>
</tr>
<tr>
<td>Design</td>
<td>2.93</td>
</tr>
<tr>
<td>Privacy</td>
<td>0.00</td>
</tr>
<tr>
<td>Services</td>
<td>1.95</td>
</tr>
</tbody>
</table>

**Content:** The website scored 2.38 in the content aspect because it has many problems in this regard. The main issue with this website is lack of information. There are more than 20 pages on the website that do not contain any information. Nevertheless, the website provides some news on the homepage and links to other websites. It also provides some statistical information and publications from the ministry. The content is provided only in Kurdish language and has right spelling, syntax and grammar. The images published on the site are generally of good quality but are small in size. Figure 4.14 shows one of many pages that do not include any information.
Authority: The website failed in this aspect because it does not provide any information about the individuals who are running the ministry. It only provides a small photo illustrating the management hierarchy within the ministry which is not clear. Nevertheless, the website provides different contact details such as a telephone number, an email address and a physical address of the ministry.

Navigation: The website did not handle this aspect well and scored 1.43. It has a lot of navigation errors which need to be fixed urgently. Generally, navigation within the website is easy as the navigation features are placed at the right positions. However, there are many broken and missing links which must not exist on such an official and important website. In addition, the website does not provide any navigation facilities such as sitemap or search features. The text links are very similar to the normal text which is confusing and make navigation more difficult for users.

Visibility: The website handled the visibility aspect very well and appeared as the first result on the search engines used in the test. As the website’s content is only provided in Kurdish Language, the term used to search for the website was in Kurdish. The term was (وزارته‌ی پامورده) meaning the Ministry of Education.
Figure 4.15: Visibility test result of moe-krg.org

**Technicality:** The website scored 3.85 in this aspect which is a reasonable score. The website was visited using three web browsers and did not have any issues with Mozilla Firefox and Google Chrome. Nevertheless, when the site was visited using Internet Explorer, the site had a problem. The calendar provided on the site was changing its position on some pages, while it was overlapping the navigation bar on other pages. The following two figures illustrate the problem.
Figure 4.16: Calendar overlaps navigation bar on moe-krg.org

Figure 4.17: Calendar changes position on some pages of moe-krg.org
**Design:** The website achieved a score of 2.93 in the design aspect which is a good score. The use of style, color and fonts is suitable and consistent on the website. However, some inconsistencies are evident which should not exist of a government website. The pages are generally very short and somehow cluttered. The organizations logo appears on all pages but dominates a lot of space on the site.

**Services:** The website provides only one service and scored 1.95 in this aspect. The service provided on this site is aimed toward primary and secondary school students. It directs students to a website that contains interactive teaching materials for learning the English Language. This service is placed under a button titled “Sunrise Program” which is easy to find on all pages. However, no description is provided for using the service.

In terms of privacy, the website did not achieve any scores. That is because the website does not provide any information about its privacy policies or terms of use.

**4.3.4 Ministry of Planning’s website (www.mop-krg.org)**

This is the website of the Ministry of Planning of the KRG. It provides extensive information regarding different planning and investment issues within the Kurdistan Region. It also provides information about the ministry’s activities and statistical information about different subjects. This website is one of the best websites of the KRG in terms of the amount of information provided on it.

The website performed very well in the evaluation and achieved an overall score of 3.51. It achieved the second highest score after the Ministry of Higher Education and Scientific Research’s website. The website has extensive information and is well designed. Nevertheless, there are few issues found on the website through the evaluation that need to be addressed by the ministry. Figure 4.18 illustrates the Evaluation results of the Ministry of Planning’s website.
It can be observed that the website performed well in most of the categories with a score of 4.7 in technicality, 4.7 in authority, 4.33 in visibility and 4.23 in navigation. The website achieved good scores in the other categories as well. The only aspect that the website did not handle well was privacy with a score of 0.

**Content:** The website achieved a score of 3.3 in the content aspect which is a reasonable score. The website provides extensive content but most of the content is not citizen oriented; therefore, it is not useful for citizens. The content is generally focused around the organizations functions and serves the private sector. It is provided in Kurdish, English and Arabic languages and is consistent in all the three languages. Moreover, the content is up to date in all the three languages and publication dates are provided where necessary. The content has right spelling, syntax and grammar but few mistakes are still evident. The images on the website are very small and cannot be enlarged. There are also some pages that do not include any information and that is considered a malpractice on government websites. Figure 4.19 illustrates three pages that include no information.
Authority: The website handled the authority aspect very well and achieved a score of 4.7. This is because the website provides comprehensive information about the ministry’s objective, functions, different directorates and people within the ministry.
Contact information for different departments of the ministry is also provided. Moreover, The contact us page provides different types of contact information in addition to a form for submitting comments and inquiries.

**Navigation:** This website achieved a very good score in the navigation aspect in comparison to the other KRG websites. It achieved a score of 4.23 and that is because the navigation features are well designed, navigation within the website is easy, and the navigation features are placed at the appropriate positions. The homepage button is easy to find and users can return to home page by clicking on the website’s logo. The website is free from navigation errors and broken links. Nevertheless, one link is placed in an inappropriate position on the discussion forum’s page as illustrated in figure 4.20.

![Figure 4.20 Navigation mistake on mop-krg.org](image)

In addition, a sitemap is provided which works properly and links to the right pages. An internal search feature is also provided which works perfectly and is very helpful for finding content on the website. Moreover, links to the main pages are provided at the bottom of the website. Overall, the website is very good in terms of navigation and no issues were found with it.

**Visibility:** The website achieved a score of 4.33 in the visibility aspect since it was found on the first result page of the search engines used in the test. The test was carried out in English, Kurdish and Arabic languages. The keywords used in the search test were (Ministry of Planning Kurdistan, ووزارة التخطيط كردستان, وزارة التخطيط كردستان).
The website appeared as first result on all the search engines. However, when the website was searched for in Arabic language using Bing search engine, the website appeared as the second result. Figure 4.21 illustrates the test results in Arabic language.

Figure 4.21: Visibility test result of mop-krg.org

وزارة التخطيط كردستان
وزارة التخطيط في كردستان
وزارة التخطيط في كردستان
وزارة التخطيط في كردستان
وزارة التخطيط في كردستان
وزارة التخطيط في كردستان
**Technicality:** The website was tested for compatibility issues and was compatible with all the web browsers used in the study. The website achieved a score of 4.7 in this aspect. Moreover, the download speed of the website was found very reasonable using different speed internet connections.

**Design:** The website scored 3.46 in the design aspect. The style, colors and fonts used on the website are suitable. However, there is inconsistency in the font used on some pages as illustrated in figure 4.22. The pages have appropriate length and are uncluttered. It should also be mentioned that there is a table on one of the pages that have not been placed appropriately as shown in figure 4.23. The organizations logo is visible on all the pages. The overall design of the website is very professional and there are not any further issues with it.

![Figure 4.22: Inconsistency in the fonts used on mop-krg.org](image-url)

**Request for Government Investment Project**

Each year in November all the KRG ministries are approached by the MoP for information on their ongoing projects. The remaining sum from the overall government investment budget is divided on the ministries according to their importance while taking the basic services (electricity, water, road, etc) into consideration.

**About GD of Investment Budget**

General Directorate of Investment Budget Planning is part of the Ministry of Planning, Kurdistan Regional Government; responsible for the preparation of the investment budget (capital budget), which is part of the annual budget of the Kurdistan Regional Government.
Services: the website achieved a score of 3.4 in the services aspect as it provides a number of services. One of the services is for arranging appointments with the minister or the general director of the ministry. Another service is an online application for registering NGOs in the Kurdistan Region. The website also provides online forms for course registration with the ministry. The services are easy to use and description is provided regarding their use. However, they are not easy to find on the website as the services link is located under a tab link which does not reflect the underlying content as illustrated in figure 4.24.

Figure 4.24: Difficulty in finding services on mop-krg.org
In terms of privacy, the website does not provide any information about its privacy policies or terms of use. Hence, it achieved no scores in this aspect. This issue should be considered by the ministry in order to enhance the reliability of its website for users.

**4.3.5 Ministry of Finance and Economy's website: (www.mof-krg.org)**

This website acts as an information gateway for the Ministry of Finance and Economy. It includes information about the ministry’s activities and news. It also provides laws and policies regarding the ministry’s functions. This website achieved a score of 2.42 which means it failed in the evaluation. The website has failed in the evaluation since there are many malpractices on it. The following figure illustrates the evaluation results of the website.

![Figure 4.25: Evaluation results of mof-krg.org](image)

**Content:** The website achieved a score of 3.28 in the content aspect. This result was achieved because the website provides a number of documents and publications. Nevertheless, there are many blank pages on the website that provide no information as
illustrated in figure 4.26. This problem was also encountered on other KRG websites and is a serious problem. This problem affects the quality of the websites and discourages users from visiting them.

Figure 4.26: Lack of content on mof-krg.org

The website’s content is provided in Kurdish and English languages but is not consistent in both languages. In the English version of the website, most of the pages are blank except few of them which include the laws and policies. The website also provides a button for Arabic language which does not exist. Moreover, the images used on the website have poor quality and are repeated in lots of places on the site. Overall, it can be concluded that the website did not handle the content aspect well.

**Authority:** The website contains a page under “about us” title, but with no information. That is considered negligence on government websites and must not exist. Nevertheless, the website provides different contact information but only on the Kurdish version of the website.

**Navigation:** The website achieved a score of 2.5 in the navigation aspect. The website is easy to navigate and the navigation features are placed at the right positions. In addition, no navigation errors or broken link exist on the website. The website also
provides a search feature that makes navigation easy. Nonetheless, there is no sitemap provided on the website which is a must have feature on government websites. Moreover, no links for the main pages are provided at the bottom of the website.

**Visibility:** The website was searched for using three search engines but could only be found on them when using Kurdish keywords. As a result, it scored 3 in this aspect. This is a big issue as the website provides its content in English languages as well. Figure 4.27 illustrates the visibility test result of this website in Kurdish Language.

![Visibility test results of mof-krg.org](image-url)
**Technicality:** The website was compatible with all the three web browsers used in the study. The downloading speed of the pages was also very good. As a result, the website scored a mean of 4.65 in this aspect.

**Design:** Regarding the design aspect, the website scored 3.43 which is a good score. This is because the use of style, fonts and colors on the website is appropriate and consistent. The pages are uncluttered and have appropriate length. Moreover, The organizations logo is visible on all pages.

In terms of privacy and services categories, the website achieved a score of zero. The website does not provide any services that make it useful for users. There are many issues on this website that need to be addressed by the website manager in order to have a better website.

### 4.3.6 Ministry of Electricity's website ([www.krgelectric.org](http://www.krgelectric.org))

This website is run by the Ministry of Electricity of the KRG and provides information about the ministry, its activities and news. The website achieved a score of 2.65 in the evaluation. It achieved high scores in some categories while it did not in others. The categories which the website handled best were content, authority, visibility, technicality and design. However, the website did not score well in the other categories. Figure 4.28 shows the evaluation results for the Ministry of Electricity’s website.
Content: The website achieved a score of 3.24 in the content aspect. The content is not very useful and is not citizen oriented. The website provides its content in Kurdish, English and Arabic languages but there is inconsistency in the information provided in these three languages. Moreover, there are many pages on the website that are empty and do not include any information. Figure 4.29 illustrates one of many pages that are blank and do not include information.

Figure 4.28: Evaluation results of krgelectric.org

Figure 4.29: One of the blank pages on krgelectric.org
Another issue with this website is that some information provided in a language appears on other languages pages. For example, news from the Kurdish version of the site appears on the English version as shown in figures 4.30.

Figure 4.30: Language inconsistency on krgelectric.org

Authority: The website contains a page under the “About us” title, however the page does not provide any information about the ministry regardless of a picture that represents the ministry’s hierarchy. The website also provides several contact information but only on the Kurdish language version of the site.

Navigation: Regarding the navigation aspect, the website scored 1.3 because it suffers from many problems. For example, the main navigation bar, which contains the home button, has the same direction in all the three languages. Typically, the home button on Kurdish and Arabic languages should be on the left side of the screen, but on the right side in English. Figure 4.31 illustrates this issue.
In addition, the website suffers from many navigation errors and missing links. The website does not provide a sitemap or a search feature in order to facilitate navigation for users.

**Visibility:** The website scored 5 in this aspect because it was found as the first result on the first page of Yahoo, Bing and Google. The website appeared as first result when searched for in the three languages provided. The keywords used in the test were (Ministry of Electricity Kurdistan, وزارة الكهرباء كوردستان ووزارة كردستان).

Figure 4.32: Visibility test result of krgelectric.org
Technicality: The website was visited using Mozilla Firefox, Internet Explorer and Google Chrome. It was compatible with all the three web browsers and no incompatibility problems were encountered. Moreover, the download speed of the website was reasonable using different internet connections.

Design: The website achieved a score of 3.46 in this aspect which is a good result. That is because the style, color and font used in designing the website are suitable. However, there is inconsistency in the font size on some of the pages as illustrated in figure 4.33. Overall, the pages have appropriate length and are uncluttered.
Regarding the privacy and services categories, the website did not achieve any scores as it does not provide any features that enhance these aspects.

4.3.7 Ministry of Endowment and Religious Affair's website

(www.merakrg.org)

This is the official website of the Ministry of Endowment and Religious Affairs and provides information about the ministry’s activities and news. The website also provides religious information and publications. It did not pass the evaluation and achieved a score of 2.38 in the evaluation. Figure 4.34 illustrates the evaluation results for the website.
**Content:** The website achieved a score of 3 in the content aspect which is a good score. The information provided on the site is generally useful and related to the subject of the site. The website provides its content in Kurdish and Arabic languages. Nevertheless, a link to English language is provided which does not work. The content provided in Arabic language is not consistent with content in Kurdish language. This is because the Kurdish version of the site is updated more frequently than the Arabic one. Another problem is that there are some pages on the website that are blank and do not include any information as illustrated in figure 4.35. Moreover, the content has right spelling, grammar and syntax. The images provided on the gallery page have very good quality but are very large in size.
Authority: Regarding the authority aspect, the website scored 2 as it does not provide information about the ministry or the people running it. Nevertheless, it provides some contact information that allows users to contact the ministry.

Navigation: In terms of navigation, the website achieved a score of 1.67 since it suffers from some navigation problems. For example, there is a link on the top of the website for English language that does not work. When the link is clicked, an error message will be shown to user. Moreover, the website does not provide any features that facilitate navigation such as sitemap or search function. The home button is not easy to find but the navigation features are generally easy to use.

Visibility: The website was searched for using the three search engines of Google, Bing and Yahoo. It was found on the first page of the search results when searched for in Kurdish and Arabic. The terms used in the test were (وزارته للفقه كوردستان، وزارة الفقه كوردستان) meaning the ministry of Endowment and Religious Affairs, Kurdistan.
Technicality: Regarding the technicality aspect, the website was visited using three web browsers in order to test its compatibility. The website was compatible with all the three web browsers and no issues were encountered. Moreover, the website’s downloading speed was reasonable using different internet connections.

Design: In terms of design, the website scored 3.43. This is because the style, colors and fonts used for designing the website are all appropriate. Generally, the pages are uncluttered and have appropriate length.
Regarding the privacy and services categories, the website did not achieve any score since it does not provide any of these features.

4.3.8 Ministry of Municipality and Tourism's website (www.momt-krg.org)

This website acts as an information gateway for the Ministry of Municipality and Tourism where news and other information are published. The website achieved an overall mean of 3.39 in the evaluation and passed the evaluation. This website is one of the best websites among the KRG websites particularly in terms of content and authority aspects. The following figure shows the evaluation results of the website.

Figure 4.37: Evaluation results of momt-krg.org

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>3.18</td>
</tr>
<tr>
<td>Authority</td>
<td>4.7</td>
</tr>
<tr>
<td>Navigation</td>
<td>3.24</td>
</tr>
<tr>
<td>Visibility</td>
<td>5</td>
</tr>
<tr>
<td>Technicall</td>
<td>4.65</td>
</tr>
<tr>
<td>Design</td>
<td>3.8</td>
</tr>
<tr>
<td>Privacy</td>
<td>0</td>
</tr>
<tr>
<td>Services</td>
<td>2.5</td>
</tr>
</tbody>
</table>

**Content:** The website achieved a score of 3.18 in the content aspect as it provides comprehensive information. The content is somehow useful but not user oriented. It is relevant to the subject of the website and is up to date. Moreover, the content is provided only in Kurdish language and has right spelling, syntax and grammar. The website provides links to other related websites and links to the main pages of the site at the bottom of the site. In addition, the images used on the website and on the gallery page have good quality.
Authority: In terms of authority, the website performed very well and scored 4.7 which was the highest among all KRG websites. This is because the website provides comprehensive information about the ministry’s structure, functions, and strategy. The website also provides different contact addresses so that users can contact the ministry.

Navigation: Regarding the navigation aspect, the website achieved a score of 3.24. The navigation features are easy to use and are placed at the right positions. Moreover, no navigation errors, broken links or under constructions pages were found on the website. Nevertheless, the website does not provide a sitemap or a search function in order to facilitate navigation. Overall, the website is very good in terms of navigation and provides other features that have improved its navigation such as the links to main pages at the bottom of the website.

Visibility: As the website provides content only in Kurdish language, it was searched for on the search engines using Kurdish keywords. The website was found on the first pages of all the three search engines used in the study, hence the website has a high visibility result.

Figure 4.38: Visibility test result of momt-krg.org
Technicality: The website was tested for compatibility issues using three web browsers. It was compatible with all the web browsers and no problems were encountered. Moreover, the website’s speed of response was very good using different internet connections.

Design: In the design aspect, the website achieved a score of 3.8 which is a very good score in comparison to other KRG websites. The style, colors, and fonts used in designing the website are suitable and consistent throughout the website. Moreover, the pages have appropriate length and are uncluttered.

Services: The website provides few services hence achieved a score of 2.5 in this aspect. The services are easy to find and use, however, no description is provided for users about using them.

In terms of privacy, the website did not achieve any scores. This is because the website does not provide any information that help users in this aspect.
4.4 Conclusion

This chapter represented and discussed the findings of this study. It showed the evaluation results of all the KRG websites. The next chapter revisits the study’s objectives and concludes the findings. It also provides a number of recommendations for the KRG to improve its websites.
Chapter 5 Conclusions and Recommendations

5.1 Introduction

This chapter provides a summary of what have been found in this study and what needs to be done in future. It starts with revisiting the study’s objectives and draws a conclusion of the main findings. It also provides recommendations regarding what is required to improve KRG’s websites. Moreover, this chapter covers the research limitations and provides suggestions for future studies.

5.2 Conclusions

The main aim of this study was to provide a comprehensive assessment of the current state of a number of KRG’s websites. This aim was met by achieving a number of objectives. Firstly, a literature review was carried out in order to identify and select evaluation criteria for evaluating government websites. Secondly, based on the literature review carried out, a customized set of criteria was developed that include criteria suitable for evaluating KRG’s websites in particular and developing countries websites in general. Thirdly and lastly, a number of KRG’s websites were selected and evaluated according to the new customized set of criteria.

The study’s results reveal that the website of the Ministry of Higher Education and Scientific Research was the top scorer in the evaluation. Other websites that performed well in the evaluation were the websites of the Ministry of Planning, Ministry of Municipality and official website of the KRG.

This study’s results also demonstrate that the majority of the KRG’s websites achieved high scores in visibility and technicality aspects. This is because most of the websites were found easily when searched for on search engines and were also compatible with the webs browsers used in visiting them. In terms of design, most of the websites are well designed with appropriate style, colors and fonts been used in their design. Few websites had inconsistency in the fonts used on them.
Regarding the content, the majority of the websites provide comprehensive content regardless of the website of the Ministry of Education which suffers from lack of information. The contents provided on these websites are generally useful. One major problem with the KRG websites in terms of content is that most of the content provided on these websites are organizational oriented than citizen oriented. This is a serious issue in E-Government as the information provided on government websites should be useful and meaningful for citizens. Another problem of the KRG’s websites is that they include many blank pages that do not provide any content.

In terms of authority, most of the KRG websites provide useful information about the structure, functions and strategy of the organizations. They also provide different types of contact addresses such as telephone numbers, email addresses and physical addresses. Nonetheless, two websites among the evaluated websites did not pass this criterion as they do not provide any information in this regard. These websites were the Ministry of Education and Ministry of Endowment and Religious Affairs.

The KRG’s websites did not achieve promising results in navigation aspects and four websites failed in this aspect of the evaluation. The reason behind the failure is that the websites have many navigation problems that make navigation difficult on them. For example, the majority of the websites does not provide sitemaps or search functions which are necessary features on government websites. Furthermore, some of the websites include many broken and missing links. Nevertheless, few websites performed very well in this aspect as they do not have any navigation problems.

Aspects in which the majority of KRG websites did not handle well were privacy and services. This is because the KRG’s websites lack features that enhance these aspects. For example, the majority of the websites do not provide any information about their privacy policies or terms of use except the Ministry of Higher Education and Scientific Research’s website. Furthermore, few websites provide services for citizens and these services are simple and do not include any financial transactions.
In short, the majority of the KRG websites achieved satisfactory results in the evaluation. Nevertheless, there are many issues with the websites that need to be addressed in order to improve them and make them useful for citizens.

5.3 Recommendations

On the basis of this study’s findings, a list of recommendations has been made to the KRG. The list of recommendations will help the KRG in improving the quality of its current websites. It also provides the KRG with a guideline for building high quality website in the future. These recommendations are the following:

- The websites should only provide information that is useful for citizens and serve their information needs.
- The content on the websites should be extensive.
- The language used on the websites should be clear and easy to understand by people with different educational levels.
- Content should be up to date with publishing dates provided.
- The content provided should be unique and not available on other websites.
- Web pages without content must be absent
- Legal information such as privacy policies, terms of use and copyright statements should be provided.
- The websites should be free from navigation errors, broken links and under construction pages.
- Sitemap should be provided and link to the correct pages.
- Search functions should be provided and work properly.
- Home button should be easy to find.
- The Organization’s logo should be provided on the top of the websites in an appropriate place. When the logo is clicked, it should take users to the home page.
- The pages should be uncluttered and have appropriate length.
• Extensive contact details should be provided in order to enhance transparency and enable citizens to contact the organizations.

• The navigation features should be easy to use and have meaningful names. They should also reflect the underlying content.

• If a website’s content is provided in more than one language, the content should be consistent and up to date in all the languages.

• Interactivity features such as discussion forums, subscription to email alerts/ RSS feeds, and feedback mechanisms should be provided in order to enable citizens interact with the organizations.

• The websites should provide services to citizens even if the services are simple.

• Links to other useful and related websites should be provided.

• Typing, spelling, and grammatical mistakes must be absent.

• The design of the websites should be professional with suitable colors and format.

In addition to the recommendations mentioned above, the KRG should employ information managers in order to manage and monitor its websites. The information managers should be involved at the design and development stages of building the websites.

5.4 Limitation of this study

Every research has its limitations, but it is very essential to identify a research’s limitations. Identifying research’s limitations enables scholars in the field to further investigate the topic. It should be acknowledged that this study is first of its kind in the field of E-Government in the Kurdistan Region of Iraq therefore it has many limitations. These limitations have been identified and discussed in this section.

As there was a limited time to conduct this study, a small sample of KRG’s websites was selected to be evaluated. The websites were selected on the basis of the three methods mentioned in the methodology chapter; therefore, these websites might not be the best
websites of the KRG. There may be other KRG websites with better navigation and design but not been included in the evaluation.

In addition, the new customized set of criteria includes many items that are considered appropriate for evaluating KRG websites and developing countries government websites. Nevertheless, it can be argued that these criteria and items do not give a comprehensive image of the websites since there are many other aspects that are important and need to be evaluated.

One of the main limitations of the study is the research method used in the study. As suggested by some scholars, the use of mixed methods provides more realistic and valid results in evaluating government websites (Korsten & Bothma, 2009; Wood et al., 2003). This is because the results obtained from using one method may be biased. As there was a limited time to conduct this study, only one method was used to collect data which was a questionnaire.

Another main limitation of this study is the number of people participated in the evaluation. As the participants of the study were chosen on the basis of their experience in the field of Information Technology, it was not easy to find a large number of people with the same qualities. The amount of work and time required in the evaluation was another constraint that did not allow choosing a big sample of people as it is not easy to ask people to evaluate eight websites in a short period of time.

5.5 Future studies

As this study has many limitations, further studies about the KRG’s websites are needed in order to provide more accurate results and help the KRG in improving its websites. Future studies can adapt more than one methodology in evaluating the websites. For example, interviews can be used alongside questionnaires. Other automatic tools can also be used in evaluating the websites such as eye tracking software for evaluating usability aspects of the websites.
Future studies can also evaluate more websites than the websites covered in this study in order to give a more comprehensive image of E-Government in the Kurdistan Region. Involving more participants in future studies will also result in more neutralized and objective results.
References


Appendices

Appendix 1

Kurdistan Region’s profile

The Kurdistan Region is an autonomous region in the north of Federal Republic of Iraq. It borders Turkey to the north, Syria to the west and Iran to the east. The region encompasses three governorates which are Duhok, Erbil and Sulaymaniyah. The Capital city of the Region is Erbil known as Hewler in Kurdish language. The three governorates cover an area of around 40,643 square kilometres (15,000 sq mi) and have a population of around 4 million. The region is governed by the Kurdistan Regional Government which is based in Erbil. After Iraq’s liberation process in 2003, the region has witnessed an economic and infrastructural boom. This has affected the Kurdish society in the region positively and helped them to have better access to internet and technology.

Since 2003, the number of internet users in the region has been increasing rapidly. In a study conducted in the region by Shareef et al. (2010), it was found that 92% of the participants in the study had computers at home, 84% of them use it for internet. The study revealed that the citizens in the region are able to cope and use E-Government, if it is successfully implemented. For the previous reason, it is important to find out what initiatives the KRG has taken toward implementing E-Government successfully by evaluating its websites.
# Appendix 2

## KRG websites Traffic rank and PageRank

The following table illustrates KRG’s websites Traffic Rank and PageRank on 18th of June 2012:

<table>
<thead>
<tr>
<th>Organization Title</th>
<th>URL</th>
<th>Traffic Rank within 3 Months</th>
<th>PageRank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kurdistan Regional Government</td>
<td>krg.org</td>
<td>160,438</td>
<td>6 /10</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>moe-krg.com</td>
<td>2,140,094</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Construction and Housing</td>
<td>krg-mocah.net</td>
<td>19,238,664</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Labor and Social Affairs</td>
<td>molsa-krg.com</td>
<td>8,035,993</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Culture and Youths</td>
<td>mcy-krg.com</td>
<td>9,344,589</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Higher Education and Scientific Research</td>
<td>mhe-krg.org</td>
<td>392,198</td>
<td>5 /10</td>
</tr>
<tr>
<td>Ministry of Finance and Economy</td>
<td>mof-krg.org</td>
<td>2,138,718</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Trade and Industry</td>
<td>mtikrg.org</td>
<td>6,442,686</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Municipality and Tourism</td>
<td>momt-krg.org</td>
<td>6,567,312</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Electricity</td>
<td>krgelectric.org</td>
<td>1,909,016</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Transportation and Communications</td>
<td>moc-krg.com</td>
<td>7,627,173</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Endowments and Religious Affairs</td>
<td>merakrg.org</td>
<td>3,065,460</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Sports and Youths</td>
<td>mosy-krg.org</td>
<td>18,967,850</td>
<td>3 /10</td>
</tr>
<tr>
<td>Ministry of Justice</td>
<td>mojkurdistan.com</td>
<td>5,363,237</td>
<td>4 /10</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>mop-krg.org</td>
<td>1,644,190</td>
<td>5 /10</td>
</tr>
<tr>
<td>Kurdistan Region Board for Disputed Areas</td>
<td>krg-dagb.org</td>
<td>19,323,770</td>
<td>4 /10</td>
</tr>
<tr>
<td>Kurdistan Regional Government – Department of Information Technology</td>
<td>krgit.org</td>
<td>7,879,766</td>
<td>5 /10</td>
</tr>
</tbody>
</table>
Appendix 3

The new customized set of criteria

The following table lists the criteria used for evaluating KRG websites with the categories they are grouped under. The table is followed by explanation of the main categories.

<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>Content is useful</td>
</tr>
<tr>
<td></td>
<td>Content is relevant to the aim of the website</td>
</tr>
<tr>
<td></td>
<td>Content is current (up-to-date)</td>
</tr>
<tr>
<td></td>
<td>Publishing dates for content is available</td>
</tr>
<tr>
<td></td>
<td>Content provided in different languages</td>
</tr>
<tr>
<td></td>
<td>Same Content available in different languages</td>
</tr>
<tr>
<td></td>
<td>Content has Right Spelling, Grammar, Syntax</td>
</tr>
<tr>
<td></td>
<td>Titles (Headings) are meaningful</td>
</tr>
<tr>
<td></td>
<td>Images (on all pages and/or in Gallery) are of good quality</td>
</tr>
<tr>
<td></td>
<td>Links to other websites are provided</td>
</tr>
<tr>
<td>Authority</td>
<td>About us page is available</td>
</tr>
<tr>
<td></td>
<td>About us page provides comprehensive information about the organization</td>
</tr>
<tr>
<td></td>
<td>Contact us page is available</td>
</tr>
<tr>
<td></td>
<td>Contact us page provides different types of contact information</td>
</tr>
<tr>
<td></td>
<td>(Contact information types include Telephone numbers, Email addresses and physical addresses of the organization)</td>
</tr>
<tr>
<td>Navigation</td>
<td>Navigation features are easy and simple</td>
</tr>
<tr>
<td></td>
<td>Navigation features are at the right positions</td>
</tr>
<tr>
<td></td>
<td>Ability to return to Home page from every page</td>
</tr>
<tr>
<td></td>
<td>Home button is easy to find</td>
</tr>
<tr>
<td></td>
<td>Navigation Errors do not exist</td>
</tr>
</tbody>
</table>
### Broken or Missing Links do not exist

### Under Construction Pages do not exist

### Site Map is provided

### Site map links to the right pages

### Navigation links for main pages are provided at the bottom of all pages

### Search is feature provided

### Text links are different in format from standard text

### Ability to return to homepage by clicking on the logo

### Visibility

Website can be found on first page on these search engines (Google, Bing, Yahoo)

### Technicality

Compatibility with these web browsers (Internet Explorer, Chrome, Mozilla Firefox)

Speed of response is adequate

### Design

Suitable and Consistent use of Style

Suitable and Consistent use of Colours

Suitable and Consistent use of Fonts

Pages have appropriate length

Pages are uncluttered

Organization’s logo is visible on all pages

### Privacy

Privacy policies are provided

Terms and conditions of use are provided

### Services

Variety of services are provided

Services are easy to find

Services are easy to use

Description of services is provided
Content: This category evaluates aspects related to the information content of government websites. The content provided on government websites should have certain qualities which differentiate it from content of other sites. For example, the information provided on government websites must be useful to the intended audience and serve their information needs (Eschenfelder et al., 1997; Smith, 2001; Ornager & Verma, 2005). The information should also be relevant to the topic and subject of the website (Ataloglou & Economides, 2009). Moreover, the information should be unique, up to date and current. The textual information provided on these sites should also be free from spelling and grammatical mistakes and sound as professional as possible (Bell et al., 2010).

Multilingualism is another aspect that needs to be available on government websites of countries where more than one official language is used (Panopoulou, Tambouris, & Tarabanis, 2008). The information on government websites should be provided in all the official languages that are used in a country so that users from different ethnic groups can access and use the information. It is also of high importance that the information provided on these sites be consistent in all the languages provided.

Authority: This is a very important aspect that shows the extent to which a government organization has published information about its structure, functions and individuals on its website. Organizations need to place a page or more on their websites where visitors can learn about the organizations. That page should provide information about the individuals who are running the organization with their contact details in order to enhance credibility and transparency. Moreover, government websites should provide different types of contact details in order to facilitate contact for citizens.

Navigation: This aspect includes criteria that evaluate navigation within government websites. As government websites are aimed toward a huge number of audiences, they should have certain features that make navigation easy on them for users. For example, the website should provide buttons or links that enable users to return to home page easily. The home page should be easy to find as users may get lost within the website.
The website should be free from navigation errors, broken links, and under construction pages (Ataloglou & Economides, 2009).

In addition, there are some features that should exist on government websites as they help users in navigating the websites and finding their ways. Features such as Sitemap and Search functions should be available in order to help users find the content they want easily (Panopoulou et al., 2008).

**Visibility:** This aspect includes criteria that assess websites’ visibility on search engines. Government websites should be easy to find on different search engines as most internet users are using search engines to find websites on the internet. The government websites should appear as first results on first page of search engines when searched for. In this study, this criterion is assessed using the most used and popular search engines which are Google, Bing, and Yahoo.

**Technicality:** This category includes criteria that evaluate technical aspects of government sites such as compatibility and speed of response. Government websites should be compatible, have the same look and functionality using different web browsers as different users use different web browsers in surfing the web. The web browsers used in this study were Internet Explorer, Google Chrome and Mozilla Firefox. In addition to compatibility, the websites should also have adequate speed of response using normal speed internet as users cannot wait for long time to download a website (Smith, 2001).

**Design:** This category assesses aspects related to the design of a website as website design plays an important role in usability issues. The design of government websites should be professional and represent the organization at its best. The pages should be uncluttered and clear. There should also be consistency in the style, colours and fonts throughout the website. It is also necessary for government websites to have a visible logo on all their pages and in a prominent position (Bell et al., 2010).
**Privacy:** This category assesses aspects related to users’ privacy on websites. It is very important for government websites to provide information about their privacy policies and terms of use because such information will enable users to know what kind of information is collected about them when they use the websites. Providing such information will also enhance the reliability of the content provided on the websites.

**Services:** This category includes criteria that evaluate the services provided on government websites and whether the services are easy to find and use. Description should be provided for any service available on the site in order to make it easy to use. It is also important that printing, downloading and storing features are easy to use where provided.
Appendix 4

The questionnaire used in the evaluation

Dear evaluator, please use the following table to evaluate the KRG websites. The list of websites to be evaluated is provided at the end of the table. You need to evaluate the websites according to the criteria listed here.

<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
<th>Answers (Scores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>Content is useful</td>
<td>Strongly disagree = 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disagree = 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neutral = 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree = 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly agree = 5</td>
</tr>
<tr>
<td></td>
<td>Content is relevant to the subject of the website</td>
<td>Strongly disagree = 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disagree = 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neutral = 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree = 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly agree = 5</td>
</tr>
<tr>
<td></td>
<td>Content is current (up-to-date)</td>
<td>Updated six months ago or more = 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Updated less than six months ago = 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Updated less than three months ago = 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Updated less than a month ago = 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Updated less than a week ago = 5</td>
</tr>
<tr>
<td></td>
<td>Publishing dates for content is available</td>
<td>No = 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes = 5</td>
</tr>
<tr>
<td></td>
<td>Content provided in different languages</td>
<td>No = 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes = 5</td>
</tr>
<tr>
<td></td>
<td>Same Content available in different languages (if provided)</td>
<td>Same content is not available = 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A little of the content is available = 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Half of the content is available = 3</td>
</tr>
<tr>
<td>Feature</td>
<td>Evaluation</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------------</td>
<td></td>
</tr>
</tbody>
</table>
| Content has right spelling, grammar and syntax                          | More than 20 mistakes are evident = 1  
                           | 10 – 20 mistakes are evident = 2  
                           | 5 – 9 mistakes are evident = 3  
                           | Less than 5 mistakes are evident = 4  
                           | No mistakes are evident = 5  
| Titles (Headings) are meaningful                                        | Strongly disagree = 1  
                           | Disagree = 2  
                           | Neutral = 3  
                           | Agree = 4  
                           | Strongly agree = 5  
| Images (on all pages and/or in Gallery) are of good quality             | Strongly disagree = 1  
                           | Disagree = 2  
                           | Neutral = 3  
                           | Agree = 4  
                           | Strongly agree = 5  
| Links to other websites are provided                                    | No = 0  
                           | Yes = 1  
| Authority                                                               | No = 0  
                           | Yes = 5  
| About us page is available                                             | Very little information provided = 1  
                           | A summery is provided = 3  
                           | Comprehensive information is provided = 5  
| About us page provides comprehensive information about the organization (If available) |  
| Contact us page is available                                           | No = 0  
                           | Yes = 5  
| Contact us page provides different types of contact information (If available) | One type of contact information is provided = 1  
                           | Two types of contact information is provided = 3  
| Contact information types                                              |  

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>include Telephone numbers, Email addresses и physical addresses of organization</td>
<td>Three and more types of contact information is provided = 5</td>
<td></td>
</tr>
<tr>
<td>Navigation</td>
<td>Navigation features are easy and simple to use</td>
<td>Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5</td>
</tr>
<tr>
<td></td>
<td>Navigation features are at the right positions</td>
<td>Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5</td>
</tr>
<tr>
<td></td>
<td>Ability to return to Home page from every page</td>
<td>No = 0, Yes = 5</td>
</tr>
<tr>
<td></td>
<td>Home button is easy to find</td>
<td>Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly agree = 5</td>
</tr>
<tr>
<td></td>
<td>Navigation Errors do not exist</td>
<td>Exist = 0, Do not exist = 5</td>
</tr>
<tr>
<td></td>
<td>Broken or Missing Links do not exist</td>
<td>Exist = 0, Do not exist = 5</td>
</tr>
<tr>
<td></td>
<td>Under Construction Pages do not exist</td>
<td>Exist = 0, Do not exist = 5</td>
</tr>
<tr>
<td></td>
<td>Site Map is provided</td>
<td>No = 0, Yes = 5</td>
</tr>
<tr>
<td></td>
<td>Site map links to the right pages (If provided)</td>
<td>No = 0, Yes = 5</td>
</tr>
<tr>
<td></td>
<td>Navigation links for main</td>
<td>No = 0</td>
</tr>
<tr>
<td>Feature</td>
<td>Rating</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------------------------</td>
<td></td>
</tr>
<tr>
<td>Pages are provided at the bottom of all pages</td>
<td>Yes = 5</td>
<td></td>
</tr>
<tr>
<td>Search feature is provided</td>
<td>No = 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes with basic search capabilities = 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes with advanced search capabilities = 5</td>
<td></td>
</tr>
<tr>
<td>Text links are different in format from standard text</td>
<td>Strongly disagree = 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disagree = 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutral = 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agree = 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strongly agree = 5</td>
<td></td>
</tr>
<tr>
<td>Ability to return to homepage by clicking on the logo</td>
<td>No = 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes = 5</td>
<td></td>
</tr>
<tr>
<td>Visibility</td>
<td>Website can be found on first page on these search engines only in provided languages:</td>
<td></td>
</tr>
<tr>
<td>Google</td>
<td>Not found on first page = 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Found on first page = 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Found as the first three results on the first page = 5</td>
<td></td>
</tr>
<tr>
<td>Bing</td>
<td>Not found on first page = 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Found on first page = 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Found as the first three results on the first page = 5</td>
<td></td>
</tr>
<tr>
<td>Yahoo</td>
<td>Not found on first page = 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Found on first page = 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Found as the first three results on the first page = 5</td>
<td></td>
</tr>
<tr>
<td>Technicality</td>
<td>Compatibility with these web browsers:</td>
<td></td>
</tr>
<tr>
<td>Internet Explorer</td>
<td>Not compatible = 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compatible = 5</td>
<td></td>
</tr>
<tr>
<td>Chrome</td>
<td>Not compatible = 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compatible = 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mozilla Firefox</td>
<td>Speed of response is adequate</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suitable and consistent use of Style</td>
<td>Not compatible = 0</td>
<td>Strongly disagree = 1</td>
</tr>
<tr>
<td></td>
<td>Compatible = 5</td>
<td>Disagree = 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neutral = 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree = 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly agree = 5</td>
</tr>
<tr>
<td>Suitable and consistent use of Colours</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suitable and consistent use of Fonts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pages have appropriate length</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pages are uncluttered</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strongly agree = 5</td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>Organization’s logo is visible on all pages</td>
<td>No = 0 &lt;br&gt;Yes = 5</td>
<td></td>
</tr>
<tr>
<td>Privacy</td>
<td>Privacy policies are provided</td>
<td>No = 0 &lt;br&gt;Yes = 5</td>
</tr>
<tr>
<td></td>
<td>Terms and conditions of use are provided</td>
<td>No = 0 &lt;br&gt;Yes = 5</td>
</tr>
<tr>
<td>Services</td>
<td>Variety of services are provided</td>
<td>No services are provided = 0 &lt;br&gt;One service is provided = 1 &lt;br&gt;Two services are provided = 2 &lt;br&gt;Three services are provided = 3 &lt;br&gt;4 – 7 services are provided = 4 &lt;br&gt;7 and more services are provided = 5</td>
</tr>
<tr>
<td></td>
<td>Services are easy to find (If provided)</td>
<td>Strongly disagree = 1 &lt;br&gt;Disagree = 2 &lt;br&gt;Neutral = 3 &lt;br&gt;Agree = 4 &lt;br&gt;Strongly agree = 5</td>
</tr>
<tr>
<td></td>
<td>Services are easy to use (If provided)</td>
<td>Strongly disagree = 1 &lt;br&gt;Disagree = 2 &lt;br&gt;Neutral = 3 &lt;br&gt;Agree = 4 &lt;br&gt;Strongly agree = 5</td>
</tr>
<tr>
<td></td>
<td>Description of services is provided</td>
<td>No = 0 &lt;br&gt;Yes = 5</td>
</tr>
</tbody>
</table>
List of websites to be evaluated

- KRG’s official website: www.krg.org
- Ministry of Education: www.moe-krg.org
- Ministry of Higher Education and Scientific Research: www.mhe-krg.org
- Ministry of Endowment and Religious Affairs: www.merakrg.org
- Ministry of Municipality and Tourism: www.momt-krg.org
- Ministry of Finance and Economy: www.mof-krg.org
- Ministry of Planning: www.mop-krg.org
- Ministry of Electricity: www.krgelectric.org
Appendix 5

Pilot study

It is essential to conduct a pilot study before collecting data for a study. Pilot study helps in identifying problems with the instruments designed for data collection. In this study, a pilot study was conducted in two stages in order to test the scoring system and validate the evaluation criteria. Firstly, the KRG’s official website was evaluated by the researcher himself to test the scoring system. Then, one of the participants was asked to test the scoring system in order to find any ambiguity with the terms used in the questionnaire and identify problems with the scoring system. The participant was also asked to evaluate KRG’s official website in carrying out the pilot study.

Based on the results of the pilot study, few modifications were made to the scoring system. For example, in the criterion assessing visibility, the visibility scoring system was not clear enough as there are three search engines selected to assess visibility. It was decided to separate the visibility test of the search engines by giving them separate scores. The same procedure was applied to the compatibility criterion were the website’s compatibility was tested using three different web browsers.
University Research Ethics Application Form for Undergraduate & Postgraduate-Taught Students

This form has been approved by the University Research Ethics Committee (UREC)

Complete this form if you are an undergraduate or a postgraduate-taught student who plans to undertake a research project which requires ethics approval via the University Ethics Review Procedure.

Your Supervisor decides if ethics approval is required and, if required, which ethics review procedure (e.g. University, NHS, Alternative) applies.

If the University's procedure applies, your Supervisor decides if your proposed project should be classed as 'low risk' or potentially 'high risk'.

"PLEASE NOTE THAT YOUR DEPARTMENT MAY USE A VARIATION OF THIS FORM: PLEASE CHECK WITH THE ETHICS ADMINISTRATOR IN YOUR DEPARTMENT"

This form should be accompanied, where appropriate, by all Information Sheets / Covering Letters / Written Scripts which you propose to use to inform the prospective participants about the proposed research, and/or by a Consent Form where you need to use one.

Further guidance on how to apply is at: www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy/approval-procedure/review-procedure

Guidance on the possible routes for obtaining ethics approval (i.e. on the University Ethics Review Procedure, the NHS procedure and the Social Care Research Ethics Committee, and the Alternative procedure) is at: www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy/approval-procedure/ethics-approval

Once you have completed this research ethics application form in full, and other documents where appropriate, check that your name, the title of your research project and the date is contained in the footer of each page.

**If your Supervisor has classed the project as 'low risk':**
- Email this form, together with other documents where applicable, to your Supervisor; and
- Sign and date Annex 1 of this form and provide a paper copy to your Supervisor.

**Important Note for Supervisors:**
Following the ethics review the Supervisor must provide the academic department's Ethics Administrator with a copy of the 'low risk' research ethics application that s/he reviewed and a completed Ethics Reviewer's Comments Form indicating the ethics decision that s/he took in relation to it. The Ethics Reviewer's Comments Form can be downloaded here: www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy/further-guidance/universityprocedure2/reviewersc. The Ethics Administrator reserves the right to consult the Chair of the academic department’s Ethics Review Panel (or equivalent) of s/he has concerns that projects classed as low risk should in fact have been classed as potentially high risk.

**If your Supervisor has classed the project as potentially 'high risk':**
- Email this form, together with other documents where applicable, to your department's Ethics Administrator; and
- Ask your Supervisor to sign and date Annex 2 of this form and provide a paper copy of it to your department’s Ethics Administrator.

Ethics Administrators are listed at: www.sheffield.ac.uk/polopoly_fs/1.99105/file/Ethics-Administrators.pdf
University Research Ethics Application Form
for Undergraduate & Postgraduate-Taught Students

I confirm that I have read the current version of the University of Sheffield ‘Ethics Policy Governing Research Involving Human Participants, Personal Data and Human Tissue’, as shown on the University’s research ethics website at: www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy

A1. Title of research project: Evaluation of Kurdistan Regional Government websites

A2. Name of Student: Aryan Abdulqader
   Department: Information School Email: aabdulqader1@sheffield.ac.uk
   Tel.: 07756244932
   Name of Supervisor: Prof. Nigel Ford

A3. Proposed Project Duration:
   Start date: 3rd June 2012  End date: 3rd September 2012

A4. Mark ‘X’ in one or more of the following boxes if your research:

   [ ] involves adults with mental incapacity or mental illness
   [ ] involves prisoners or others in custodial care (e.g. young offenders)
   [ ] involves children or young people aged under 18 years
   [ ] involves using samples of human biological material collected before for another purpose
   [ ] involves taking new samples of human biological material (e.g. blood, tissue) *
   [ ] involves testing a medicinal product *
   [ ] involves taking new samples of human biological material (e.g. blood, tissue) *
   [ ] involves additional radiation above that required for clinical care *
   [ ] involves investigating a medical device *

   * If you have marked boxes marked * then you also need to obtain confirmation that appropriate University insurance is in place. To do this email insurance@shef.ac.uk and request a copy of the ‘Clinical Trial Insurance Application Form’.

It is recommended that you familiarise yourself with the University’s Ethics Policy Governing Research Involving Human Participants, Personal Data and Human Tissue before completing the following questions. Please note that if you provide sufficient information about the research (what you intend to do, how it will be carried out and how you intend to minimise any risks), this will help the ethics reviewers to make an informed judgement quickly without having to ask for further details.
A5. Briefly summarise:

i. The project’s aims and objectives:
   (this must be in language comprehensible to a lay person)

   The main aim of this dissertation is to evaluate a number of Kurdistan Regional Government websites in providing access to government information and services. This dissertation will serve as a document that helps the KRG to improve their websites in the best ways possible. It will also contribute to the literature of e-government in Kurdistan Region since there have not been many research done in this field in the Region.

ii. The project’s methodology:
   (this must be in language comprehensible to a lay person)

   First of all, a literature review is conducted to find criteria used for evaluating government websites. Based on the literature review, a customized set of evaluation criteria will be developed with appropriate criteria for evaluating KRG’s website. Later, the evaluation criteria will be turned into a questionnaire to conduct the evaluation. The questionnaire will be employed by the researcher himself and four other IT graduates to ensure the objectivity of the evaluation results.

A6. What is the potential for physical and/or psychological harm / distress to participants?

   There is no physical or psychological harm to the participants.

A7. Does your research raise any issues of personal safety for you or other researchers involved in the project? (especially if taking place outside working hours or off University premises)

   No, this research doesn’t raise any issues of personal safety for me or others.

   If yes, explain how these issues will be managed.
A8. How will the potential participants in the project be:

i. Identified?

The participants will be identified based on their experience in web design and development.

ii. Approached?

After preparing the questionnaire, the questionnaire will be sent by email to the participants.

iii. Recruited?

The participant will be recruited by answering the questions and sending back the completed questionnaire with answers to me.

A9. Will informed consent be obtained from the participants?

YES [X]    NO [ ]

If informed consent or consent is NOT to be obtained please explain why. Further guidance is at: www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy/policy-notes/consent
A9.1. This question is only applicable if you are planning to obtain informed consent:
How do you plan to obtain informed consent? (i.e. the proposed process?):

A form will be presented to the participants asking them whether they object or not if their information will be used in this study.

A10. What measures will be put in place to ensure confidentiality of personal data, where appropriate?

Some measures will be put in place to ensure the confidentiality of personal data of participants such as not mentioning names and ages of the participants.

A11. Will financial / in kind payments (other than reasonable expenses and compensation for time) be offered to participants? (Indicate how much and on what basis this has been decided)

No payments will be made for the participants.

A12. Will the research involve the production of recorded media such as audio and/or video recordings?

YES ☐ NO ☒

A12.1. This question is only applicable if you are planning to produce recorded media:
How will you ensure that there is a clear agreement with participants as to how these recorded media may be stored, used and (if appropriate) destroyed?
Guidance on a range of ethical issues, including safety and well-being, consent and anonymity, confidentiality and data protection are available at:
www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy/policy-notes
For Undergraduate & Postgraduate-Taught Students

**Student Declaration**

(The student completes Annex 1 if the Supervisor has classed the student’s proposed research project as 'low risk')

The Supervisor needs to receive an electronic copy of the form, and other documents where appropriate, plus a signed, dated paper copy of this Annex 1 ‘the Student Declaration’.

Full Research Project Title: **Evaluation of Kurdistan Regional Government websites**

In signing this Student Declaration I am confirming that:

- The research ethics application form for the above-named project is accurate to the best of my knowledge and belief.
- The above-named project will abide by the University’s ‘Good Research Practice Standards’: [www.sheffield.ac.uk/ris/other/gov-ethics/good](http://www.sheffield.ac.uk/ris/other/gov-ethics/good)
- The above-named project will abide by the University’s 'Ethics Policy Governing Research Involving Human Participants, Personal Data and Human Tissue': [www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy](http://www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy)
- Subject to the above-named project being ethically approved I undertake to adhere to any ethics conditions that may be set.
- I will inform my Supervisor of significant changes to the above-named project that have ethical consequences.
- I will inform my Supervisor if prospective participants make a complaint about the above-named project.
- I understand that personal data about me as a researcher on the research ethics application form will be held by those involved in the ethics review process (e.g. my Supervisor and the Ethics Administrator) and that this will be managed according to Data Protection Act principles.
- I understand that this project cannot be submitted for ethics approval in more than one department, and that if I wish to appeal against the decision made, this must be done through the original department.

Name of Supervisor: Prof. Nigel Ford

Name of student: Aryan Abdulqader

**Signature of student:** *Aryan Abdulqader*

Date: 02/08/2012
For Undergraduate & Postgraduate-Taught Students

Supervisor Declaration

(The Supervisor completes Annex 2 if s/he has classed the student's proposed research project as potentially 'high risk')

The Ethics Administrator needs to receive an electronic copy of the form, and other documents where appropriate, plus a signed, dated paper copy of this Annex 2 'the Supervisor Declaration'.

Full Research Project Title: **insert name**

In signing this Supervisor Declaration I am confirming that:

- The research ethics application form for the above-named project is accurate to the best of my knowledge and belief.
- The above-named project will abide by the University's 'Good Research Practice Standards': [www.sheffield.ac.uk/ris/other/gov-ethics/good](http://www.sheffield.ac.uk/ris/other/gov-ethics/good)
- The above-named project will abide by the University’s ‘Ethics Policy for Research Involving Human Participants, Data and Tissue’: [www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy](http://www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy)
- Subject to the above-named project being ethically approved I will undertake to ensure that the student adheres to any ethics conditions that may be set.
- The student or the Supervisor will undertake to inform the Ethics Administrator of significant changes to the above-named project that have ethical consequences.
- The student or the Supervisor will undertake to inform the Ethics Administrator if prospective participants make a complaint about the above-named project.
- I understand that personal data about the student and/or myself on the research ethics application form will be held by those involved in the ethics review process (e.g. the Ethics Administrator and/or reviewers) and that this will be managed according to Data Protection Act principles.
- I understand that this project cannot be submitted for ethics approval in more than one department, and that if I and/or the student wish to appeal against the decision made, this must be done through the original department.

Name of Supervisor: **insert name**

Name of student: **insert name**

Signature of Supervisor: **sign here**

Date: **insert date**
Information Sheet

Research Project Title: Evaluation of Kurdistan Regional Government Websites

You are being invited to kindly participate in this research project. Before you decide to participate, it is important for you to understand why this research is being carried out and what it will involve. Please take time to read the information provided in this document carefully and discuss it with others if you wish. Please do not hesitate to ask me if there is anything that is not clear or if you would like more information about the study. Take time to decide whether or not you wish to participate. Thank you for reading this.

Research aims and objectives

The main aim of this study is to evaluate the current state of a number of Kurdistan Regional Government websites in providing access to government information and services. This dissertation will serve as a document that helps the KRG to know the performance of its websites and improve them based on the study’s results.

Why have I been chosen?

As this study evaluates a number of Kurdistan Regional Government websites, the participants should have knowledge in website design and development. The participants should also know Kurdish, English and Arabic languages since these three languages are used on the Kurdistan Regional Government’s websites. Having the qualities mentioned previously, you have been identified to take part in this study.

Do I have to take part?

It is entirely up to you to decide whether or not to take part. If you decide to take part you will be given this information sheet to keep and be required to sign a consent form. You can withdraw from the study at any time you want. You do not have to give a reason if you withdraw from the study.
What will happen to me if I take part?

If you decide to take part in the study, you will be sent a questionnaire by e-mail with some details about how to complete the questionnaire and give scores to the items. You will be asked to do the evaluation within 15 days from the day you will be sent the questionnaire. You will only be asked to do the evaluation once.

What do I have to do?

After you decide to participate in the study, will be given some instructions by the researcher and will be asked to do the following:

- Visit the websites that are selected to be evaluated in this study.
- Evaluate the websites according to the items included in the questionnaire.
- Give scores to the questionnaire items based on the availability of the items on the websites.
- Send the completed questionnaire back to the researcher.

What are the possible disadvantages and risks of taking part?

There are not any anticipated disadvantages or risks resulting from participating in this study. If there is any aspect that you do not wish to do during the evaluation, you are absolutely free to withdraw from the study.

There is one issue that might result in discomfort of the participants and that is the time required to do the evaluation. Nevertheless, the time given to do the evaluation is considered very convenient.

What are the possible benefits of taking part?

Whilst there are no direct benefits for those people taking part in the study, it is hoped that this work will provide a comprehensive evaluation for Kurdistan Regional Government websites. It is also hoped that this study will contribute to the E-Government literature in the Kurdistan Region and will help the government to improve its websites.

What happens if the research study stops earlier than expected?
If the study stops earlier than expected for any reasons, all the participants will be informed through e-mail and will be told about the reason. All the data collected to that point will be dealt with according to the University of Sheffield’s research ethics procedures and policy.

**What if something goes wrong?**

If something goes wrong in the study or you want to make a complaint about an aspect of the study, you can contact the researcher at this e-mail address: afabdulqader1@sheffield.ac.uk or call him on 0044 77 56 24 4932. The complaints will be handled carefully. If you feel that your complaint was not handled to you satisfaction, you can contact the University’s ‘Registrar and Secretary’.

**Will my taking part in this project be kept confidential?**

All the information that I collect about you during the study will be kept strictly confidential in accordance with the University of Sheffield’s research ethics procedures. Hence, you will not be identified in any reports or publications.

**What will happen to the results of the research project?**

The data collected from the participants will be combined with other participants’ data in order to find the results for this study. The results will be used for educational purposes and may be given to the Kurdistan Regional Government as well. A copy of the results can be obtained from the researcher when required. Furthermore, the data collected in the course of this study might be used for additional or subsequent research.

**Who is organising and funding the research?**

This research is organized by the researcher himself and receives no funding from any parties.
Who has ethically reviewed the project?

This project has been ethically approved via the Information School department’s ethics review procedure.

Contact for further information

**Supervisor**
Prof. Nigel Ford  
Information School  
University of Sheffield  
Room 306, Regent Court,  
211 Portobello Street,  
Sheffield, S1 4DP UK  
Telephone: (+44) 22 22637  
Email: n.ford@sheffield.ac.uk

**Researcher**
Mr. Aryan Abdulqader  
A157, Central Quay,  
33 Alma Street,  
Sheffield,  
S3 8RA  
Mobile: +44 (0) 775 624 4932  
Email: afabdulqader1@sheffield.ac.uk

Thank you so much for your time and effort in reading this information. Your participation in this study is highly appreciated.

**Note:** All participants will be given a copy of this information sheet and a signed consent form to keep.
Title of Research Project: Evaluation of Kurdistan Regional Government Websites

Name of Researcher: Aryan Abdulqader

Participant Identification Number for this project:
Please initial box

1. I confirm that I have read and understand the information sheet dated 02/08/2012 explaining the above research project and I have had the opportunity to ask questions about the project.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.

3. I understand that my responses will be kept strictly confidential (only if true). I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research.

4. I agree for the data collected from me to be used in future research

5. I agree to take part in the above research project.

______________________________
Name of Participant
(or legal representative)

______________________________
Date

______________________________
Signature

______________________________
Name of person taking consent
(if different from lead researcher)

______________________________
Date

______________________________
Signature

To be signed and dated in presence of the participant

______________________________
Aryan Abdulqader
Lead Researcher

______________________________
Date

______________________________
Signature

To be signed and dated in presence of the participant

Copies:

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.