THE ASSESSMENT OF SHANXI
E-GOVERNMENT WEBSITE

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ABSTRACT

As the information technologies have developed from simple information sharing stage to interactive, intelligent stage, a lot of states and nations have built E-government websites to offer information and government services for citizens. In modern society, the developed countries have a considerable good performance on the building of E-government website, and tend to reach perfection. However, the official government websites in China only offer basic information for visitors, without always paying attention to the usability, accessibility, and content management of the websites, because providing government services and information on the E-government websites are not equal to the successful access by users, especially for the disabled. This dissertation has conducted a thorough census of a specific website: the Shanxi Province government website in China http://www.shanxigov.cn/, which covers the following aspects: visibility analysis, stage analysis, usability analysis. And it examined the website by using specialized tools. Additionally, several interviews will be carried out by conducting conversations with citizens from the Shanxi province. The analysis results reflect that it has done notoriously bad on the accessibility, interaction, transaction, and the content management, which affects the user experiences to a huge extent. At the same time, this study examines the Beijing E-government website for presenting a good instance of building E-government website. In the end, several measures have been produced to improve the quality of it. This research does not only contribute to the development of the Shanxi E-government website, but also provide the stages of establishing a good E-government website.
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CHAPTER 1: INTRODUCTION

1.1 Background

As the information technologies have developed from simple information sharing stage to interactive, intelligent stages, companies all over the world have continued to use websites for improving their business, while many states and nations offer e-government services for citizens. E-government, as IAN and RAY (2005) claimed, is “a public sector which uses contemporary information and communication technology to boost information dissemination, enhance service delivery and facilitate citizen participation in governance.”

As the governments have claimed, web-based government services enable the citizens to get information and service easily. Moreover, the E-government services enable citizens to participate in the activities launched by the governments, contributing to gather the opinions of them. And, it also makes it possible to complete business transactions electronically (Alshawi & Alalwany, 2009). Consequently, the majority of states and the government organizations at all levels are now paying considerable attention to the building of E-government services.

At the end of 2009, there are 42 provincial government websites which include the immediate organization in Shanxi Province, 89% are in the possession of governments. Furthermore, 11 municipal governmental website are available in Shanxi Province, and all of them belong to the city governments. Additionally, 107 government websites exist at district level, with the ownership rate of 90% by district governments (Zhang & Hsieh, 2010).

The Shanxi People’s Government website http://www.shanxigov.cn/ was constructed in the year of 2002, it has been running for six years, and has become an important platform for Shanxi provincial government to provide public services, public government information, to the community (Jian, 2006). Additionally, it enhances information exchange and level of public oversight. In the April 2008, the site implemented a major revision to
strengthen three functions, which were the opening of government affairs, online services, and the public communication, the release of government information and provision of government services were improved by them (Zhang & Hsieh, 2010).

In the vigorous efforts of the Shanxi provincial government, the provincial government departments at all levels speed up their pace of improving service level of the websites. With the promulgation and implementation of Code of Practice on Access to Government Information in China, government departments at all levels have fully recognized the importance of opening government information, they re-combing and integrating the information content to promote the opening of information to a great extent. In respect of online service, most of the government resources are available online, and a series of functions are provided in the website, for instance, it provides the work guidance and downloading forms. Moreover, some government websites has been established a user-centered scenario-service, and a few realized the work site issues online reporting and processing. In the matter of public participation, the majority of them have been established the most basic of communication channels to gather citizens’ opinions and suggestions.

In January 2009, the Seventh (2008) Chinese government website performance evaluation report was issued. In accordance with the 2008 Chinese government website performance evaluation regulations, the first evaluate standard were the opening of information, online services, public participation, site performance, user surveys, and routine security.

Results from the evaluation perspective, the overall performance of Shanxi Province was the low level of government websites in China, a series of assessments rank low on the list. Shanxi Province People's Government website was ranked as 22 with the total score of 42.37 among the provincial government websites in the end of 2008, which has risen by 3 compared with 2007’s assessment (Zhang & Hsieh, 2010).

As the report shows, except for the survey and websites performance, the score of other
class 1 KPIs was lower than the national average, especially the online work and public participation indicators. That shows a great gap between the Shanxi province and others provinces for these three main functions.

As can be seen from the report, compared with 2007, there was a substantial increase in overall performance by 48.6%, information disclosure index increased by 2 times, online work index increased by 112.8% and the increase of public participation index is 167%. It could be found that since 2008 the Shanxi e-government website has made a great achievement (Zhang & Hsieh, 2010).

E-government websites is a significant part of Government Framework in a country. It is a main window offer service to public in the background of development of information technology and the new public management. In China, the criteria of evaluating a government website performance are the opening of government information, online services, and interactive exchange.

However, the official government websites in China only offer basic information for visitors, without always paying attention to the usability, accessibility, and content management of the websites. For example, making government services and information on the e-government websites are not equal to the successful access by users, especially for the disabled people. The aim of this dissertation is to conduct a thorough census of a specific website: the Shanxi Province government website in China [http://www.shanxigov.cn/](http://www.shanxigov.cn/), which will be conducted from the following aspects: visibility analysis, stage analysis, usability analysis, and evaluation provided by specialized websites. For another thing, this study is going to conduct interviews with the citizens from the Shanxi province, and the questions will be designed around the features examined by utilizing the method mentioned previously. After analyzing the results of the responses, several suggestions will be proposed for improving the user experience of the Shanxi E-government website.
1.2 Outlines

Chapter 2 introduces the methodology used in this research, which is qualitative research. It will be identified by using the evaluation methods proposed by Mofleh and Wanous in the year of 2009, to assess the Shanxi E-government website, together with the interviews with the citizens from Shanxi province. Chapter 3 describes the literatures related to this research over the following five aspects: The situation of e-government in China, benefits of building e-government, the ways to establish a good e-government, the problems encountered within the process of building e-government, and the criteria for evaluating a government website. Chapter 4 is the most significant section of this research, which identifies the findings of this research, from the evaluation based on the theory of Mofleh and Wanous. And, the results of interviews will be presented and analyzed. The final part is the limitation and recommendation of this study. It suggestion several further research which contribute to the development of Shanxi E-government.

1.3 Motivation

I am interested in the study of the application of information and communication technologies in governments. Additionally, it is my ambition to become a civil servant after I graduate. Therefore, I think this research will be helpful for my future career.
CHAPTER 2: METHODOLOGY

2.1 Introduction

This section primarily aims to identify the research methods could be used in a study, which were defined by various researchers. It will then go on to propose a suitable method for this study in order to answer the research questions. It involves the collection and analyze of data. Furthermore, for the reliability and validity of the research, the research method used by this research will be qualified.

On the other hand, the ethic considerations were highlighted before the study could commence, ten citizens from the Shanxi Province participate in this research. They were guaranteed about that the data could only be used in this study.

2.2 Research Methods

According to the theory of Bryman (2004), the possible research area needs to be considered before the research commenced, and the reliability of the sources should be made, in addition, the research method should be chosen. Particularly, to carry out a research not only presents the event, but also thinks deeply on the connection among the collected data, context, and process in a coherent manner.

The majority of authors agree to the classification of research methodologies, which are qualitative research method and quantitative research method in the social studies. Gorman and Clayton (2005) claimed that "qualitative research is a method of inquiry in many different academic disciplines, traditionally in the social sciences, but also in market research and further contexts." The goal of qualitative research is to collect an in-depth understanding of a target group’s behavior and what govern it. In other words, it investigates why and how of decision making, not just delivers the event. Accordingly, smaller but focused groups are more often needed, instead of large scale of people. A common approach of the qualitative method is to interview a target group.
Several aspects need to be considered for using qualitative method. Firstly, cases should be chosen purposefully, based on whether or not they possess the certain characteristics (Carlo & Cinzia, 2009). Secondly, the position of the investigator needs to be neutral in the practical or philosophical research terms, for the research process is the communication of investigator and the objectives under studies. Moreover, Bryman (2004)argues that qualitative investigators are often advised to define their worth in the process of research and analysis. Lastly, the systematic qualitative approaches to analysis are necessary to be rigor. For instance, a series of qualitative methods request investigators to carefully record and analyze data in and reliable way. On the other hand, qualitative data is usually hard to represent in a systematic way. Therefore, it needs the investigator to combine and construe the raw data (Gorman & Clayton, 2005).

Qualitative research is often used for evaluating a specific objective because it is possible to investigate the research questions in depth, and is more efficiently and effectively than quantitative approaches to a huge extent. Qualitative methods have the merit which allowing for a variety of responses, together with the capability to accommodate to changes during the process of research.

Moreover, Pickard (2007) reckoned that qualitative research gathers information only for the particular studies, and general conclusions are only informative guesses in some cases. Quantitative research could be utilized to confirm which of such hypotheses are authentic.

2.3 Design the Research Method

For the purpose of the research, it delimited the study scope according to the theory of Carlo and Cinzia (2009). The research strategy inquiry chosen for the study will affect the methods of data collection and analysis.

Reading the appropriate literature about e-government and information and communication technologies, which main consist of articles and books.
To gather the authentic data, this research used two methods for collecting and analyzing data, which are primary research and secondary research. The primary method is to conduct interviews, Gorman and Clayton (2005) deems that the investigators could gather sufficient information from interviewees who hold personal perspectives of process and environments. Moreover, the secondary research is to analyze the website content based on the theory and regulations of evaluations which were advanced by some researchers.

2.3.1 Primary Research

2.3.1.1 Designing the interview

It is essential to conduct interviews to verify the correctness of the results which concluded from the analysis of the website. The section of interview sought to find what the participants’ attitudes, feelings, and beliefs of the website are. The design of this questionnaire was based on the criteria for evaluating government websites.

The participants were chosen from the citizens in the Shanxi Province, and the amount of them is ten, which from a variety of occupations. It includes one teacher, two government employees, one doctor, two businessmen, one housewife, one student, one people from other province, and one old person. A series of open-ended questions will be asked and the conversation will happen face to face that last approximately 20 minutes. The interview will be guided to ensure the participants could understand what information the researchers want. The personal details needed in this section are the sex, age, and the occupation of the participants. Gorman and Clayton (2005) consider that a pilot interview is easily to control the quality of information gathered. Moreover, they assert that it could guarantee unbiased information which is the aim of the investigations.

It is possible that some people did not visit the website for research before. Then, I will show them the website, and ask their opinion of the website. This helps to
assure the comprehensiveness and reliability of the results from interviews.

2.3.1.2 Analyzing the information gathered from the participants

The results of the conversation will be recorded, and the answers of each question will be gathered and compared, then, the analysis results could be summarized based on it.

2.3.2 Secondary Research

The secondary research would be carried out in the libraries and Internet. It aims to evaluate the website content according to the listed evaluation criteria.

All the data will be collected in the end of July 2010. The result of interviews will be saved as initial data in the digital format, and it will be compare with the results of secondary research. This is the process of data analysis. They do not need to reach a same conclusions, it is possible that some interviewers will put forward a series of new views.

2.4 Methodology Concern

Based on the theory of Cario and Cinzia (2009), the research cost will increase if the process of research does not perform properly. The interviews are expected to be conducted in China, if it does not go well, the investigate process needs to be extended, consequently, the cost will be more.

2.5 Ethic Consideration

In the project, I intend to have some interviews with the selected citizens, who would be voluntary to join in the interviews. It only involves anonymous or aggregated data. And before doing interviews, I will inform them what I am doing and what will happen with the results of their survey and if I gain their permission the research will be taken. The
participants are chose from general and normal assembly not any special groups, the results of questions do not appear any personal details. Besides, it does not require participants to provide any personal privacy or sensitive information. Moreover, there is no financial or other kind of payments for participants. The research will not involve the production of recorded media, such as audio and video recordings.

In addition, the research does not raise any issues of personal safety for me or other researchers involved in the project.
CHAPTER 3: LITERATURE REVIEW

Literature related to the four research questions comes from the following areas: The situation of e-government in China, benefits of building e-government, the criteria for evaluating a government website, the ways to establish a good e-government, and the problems encountered within the process of building e-government.

3.1 The situation of e-government in China

According to Holliday and Yep (2005), The Chinese government started to apply internet technology on establishing government service the mid-1990s. In 1999, they concentrated more on the building of e-government, and claimed to put 80 percentages of governmental agencies online by 2000. To achieve this goal, Chinese government created the Government Online Project Service Centre.

In 2001, Chinese government set a new target that over 80 percent of municipal governmental agencies should be posted to the web. At the same time, the National People’ Congress proposed a plan of advancing the amount of net citizens in China to 150 million by the end of 2005 (Holliday & Yep, 2005). This had the considerable effect on the social needs not only for the commercial activities, but also the public life.

3.2 Benefits of building e-government

There is no doubt that the e-government services have a place, and will continue to have a significant impact on the development of the state, or the region, especially in a developing county. This point has been demonstrated by plenty of authors.

A content analysis of e-government website in U.S. (Zhao, Truell, et.al, 2006) reflected that most of the government websites have provided a set of e-services for citizens. It builds up the reputation of the government, and promotes the tourism, investment and other resources. In addition, it announces new policies and measures proposed by
government, which are conducive to the public and give a more direct and effective understanding of relevant policy information. Furthermore, e-government also provides convenient services for people, which enables them to complete the various government affairs through online service. Moreover, it helps government agencies to acquire and understand people's problems, suggestions, and comments by establishing chat room and online enquires. Finally, it exchanges the information between departments of government, together with the Government Office Automation.

According to the research of Chevallerau (2005), E-government brings the following benefits to citizens and government agencies. Firstly, it provides a great deal of information for citizens, and the convenient and fast service. Secondly, by applying the internal network, civil work will be more efficient. Furthermore, the communication between the citizens and government could be improved by establishing the E-government websites.

3.3 The criteria for evaluating government websites

There are three main aspects of the evaluation criteria, which are information content criteria, service criteria, and currency criteria. The Abebe and Dawit (2010) maintains that the information Content evaluation refers to the type of website, the type of services, the number of features available on the government website, and the amount of executable services. In theory, the higher the amount of features, the better E-government website is. And the level of development of E-government service is a major component.

In the area of E-government study, a series of criteria have been identified in the literatures and researches about E-government which evaluate the government websites. The main method used in the majority of studies about the E-government websites is the Internet, in other words, most of the researches aim to examine the effectiveness and feathers of E-government websites considered the Internet as a good tool to gather information (Mofleh & Wanous, 2009). A case in point is several researchers have used Internet to review and rank the E-government websites all over the world. Furthermore,
Mofleh and Wanous (2009) has summarized five different methods to evaluate the E-government websites, which are Visibility analysis, Stage analysis, Usability analysis, the replication of e-government, and evaluation provided by specialized websites. They analyze an e-government website from the external presence to the internal need, which is a commendable approach to a huge extent.

In addition, several indicators have been developed to analyze the E-government websites in other literatures, such as accessibility and disability (Shi, 2007).

3.3.1 Visibility analysis

Accordingly to the study of Mofleh and Wanous (2009), the visibility analysis could reflect the level of uses’ aggregate demand about a specific e-government website. The simplest way is to examine what will present in the results by searching the e-government name. The e-government website ranks higher, the visibility is higher. Moreover, the score of the visibility could be calculated by assuming a marking system. For example, the first result could be considered as 100 points, and the tenth result is 10 points, the subsequent results are 0 point. Furthermore, to average the results of several search engines provides a more accurate visibility analysis about the e-government website.

Based on the opinion of Shi (2007), most of the users utilize the search engines to find the specified websites, and they only glance over the first three pages of search results in most cases. Consequently, the higher ranking an e-government website got, more likely to be assessed.

To analysis the visibility is the first step to evaluate an e-government website, which reveals the general level of it.

3.3.2 Stage analysis

By utilizing this method, the research could examine which services of the tested e-government websites have been offered, and which service level they are. In the area of
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e-government websites analysis, it was recommended and utilized by a set of researches, such as Moon (2002) and Kaaya (2003). It aims to evaluate the service level of the e-government websites.

Mofleh and Wanous (2009) deem that four main stages of the e-government websites could to be classified when analyzing the stage of them, which are web presence, interaction, transaction, and integration. Firstly, they assume that the web presence as the combination of interface and capacity to offer general information. Most of the government agencies throughout the world have built the e-government websites to provide general information about them. And, the interaction of the e-government agencies means to interact with visitors. For instance, it is possible for users to participate the activities which launched by government, the common way are Email and chatting room. Furthermore, transaction stage enables users to transact online. In modern governments, enabling official works online, such as paying tax and renting houses is more and more becoming a trend, and it will be a good application of transaction. Finally, based on an array of studies, conducting the integration analysis is significant to the assessment of the e-government websites. The integration stage is to combine a series of services, even though some of them provided by other websites and agencies. And, it does not equal to simply list their link web addresses.

3.3.3 Usability analysis

According to the definition which proposed by Baker (2004), usability of the e-government websites refer to its performance about realizing different users’ needs. For example, to adjust the font size in the websites is helpful for the weak-eyed people. Moreover, the literacy ability and culture ground of users are different, consequently, a well performance e-government website need to cater to various demands (Shi, 2007).

A set of dimensions need to be considered in the usability section, which are online-services, user-help, navigation, legitimacy, information architecture, and accessibility accommodation. Similarly, Shi (2007) deems the accessibility of the
e-government is a significant feature which needs to be measured. By calculating the whole scores of the variables of each dimension, the usability level of an e-government website could be concluded.

3.3.3.1 Online services

Firstly, the online services refer to the services demanded by the e-government websites users, such as the transaction of credentials, and adoption of children. The majority of the e-government websites in the developed countries have a better performance compared with the developing countries, for citizens in the developing countries are unaccustomed to use the online services because of the low level construction and the limitation of promotion (Alshawi & Alalwany, 2009).

3.3.3.2 User-help analysis

According to the definition of Mofleh and Wanous (2009), the User-help of the websites is to provide several tools to facilitate browsing websites by users. For instance, Alshawi and Alalwany (2009) consider a operating manual is quite serviceable for visitors, the introduction of applying Email would be a good example.

3.3.3.3 Navigation analysis

Navigation refers to the features help users browse the websites easily and quickly (Mofleh & Wanous, 2009). The great majority of e-government websites have designed this (Yildiz, 2007).

3.3.3.4 Information architecture

Good information architecture clarify the structure and organization of the e-government websites, consequently, it could save time for visitors to a huge degree (Mofleh & Wanous, 2009)
3.3.3.5 Legitimacy analysis

Mofleh and Wanous (2009) also assume that the legitimacy of the e-government websites is crucial feature for the users, for they need to provide the personal information in several occasions when dealing with works.

3.3.3.6 Accessibility analysis

Alexander (2007) defined web accessibility as "is an approach to Web design that aims for maximal inclusion, both in terms of people who use Websites and the technologies that are utilized in the process". In other words, it means the e-government websites need to be accessible by as many people as possible, no matter what age, gender, education, religion, and physical status (Mofleh & Wanous, 2009). Furthermore, some authors argue that the accessibility of e-government websites not only the disabled but other users.

Shi (2007) consider that the accessibility of the e-government websites enables the disabled people benefit from the establishment of e-government as the same degree to all other citizens, such as to participate in the political issues and receive the basic services. The build of e-government websites is becoming a trend in modern government, and more and more basic services are available in the e-government websites (Shi, 2007), in addition, there are over 750 million disabled people in the world in the end of 2004, and the amount of disabilities is rising as the coming of Aging society (Holliday & Yep, 2005). Accordingly, it is impending to improve the accessibility for the e-government websites throughout the world.

There is a variety of regulations which prescribe how to develop the accessibility of websites, were produced by The World Wide Web Communication in the year of 1999 (W3C, 1999). All checkpoints list in the regulations was classified into three priority levels, the features list in the priority one must be satisfied. Otherwise, lots of users are impossible to assess the Websites. And, features included in the priority two should be met, for they are valuable to the visit of some users. Finally, most of the checkpoints
mentioned in the third level are optional for the websites to cater for.

Although a series of Web accessibility testing tools are available at present, such as the Vision Australia, Wave, Bobby, Accverify, Truex Online 2.0, and Cynthiasays, there is no agreement on which testing tool is suitable for Web Accessibility analysis studies (Shi, 2007). This research is going to use Cynthiasays, which is a product of HiSoftware, it is possible to get a evaluation report which relies on the regulations of Section 508 and WCAG Priority 1, 2 and 3 standard when imputing the website address of tested e-government website. Cynthiasays is easy to be used, and the testing report is simple. Additionally, it is free for testing, for this research does not have sufficient capital for utilizing the testing tools with cost.

3.3.4 The replication of e-government

This approach is to analysis the tested website by replicating the experience of chosen group users. By applying this method, researches could replicate differences of users, which is valuable for evaluate a specialized e-government website. It is equal to the examination of each dimension of e-government website to a huge extent (Mofleh & Wanous, 2009). The typical approach of this method is to interview a number of users of a tested e-government website, and analyzing and replicating their user experiences.

3.3.5 Evaluation provided by specialized websites

This method uses several specialized websites to analyze some features about the e-government websites. It could provide valuable information for evaluating a website, even though different features of the websites have been chosen to be investigated. The famous website which monitors and surveys the information of websites around the world is Alexa.com. It not only calculates the traffic details which including the amount of visitors about each website, but offers a diagram which was concluded from the collected information. Additionally, the ranking information is available in the Alexa.com. In the area of information study, it is a useful tool for researches to investigate a specific website.
Furthermore, the accessibility and other evaluate features of the e-government websites could be gain from some other websites, for example, the erigami.com and Webxact.watchfire.com are valuable for testing these features.

All research websites motioned before are the English professional website, besides, a set of Chinese monitor instruments are available. A case in point is the Cnzz.com, a China’s most influential free services provider which could collect traffic information of homepages, and focused on provide professional, authoritative, independent third-party data statistical analysis for various websites. Meanwhile, CNZZ has the world’s leading technologies about Data collection, Statistics and Mining. Accordingly, these instruments are valuable to the studies of specific e-government websites.

Furthermore, http://www.chinarank.org.cn/ is an official website which holds by Internet Society of China, and it concentrates on the statistical analysis of the traffic and websites ranking about all the websites registered in China, together with some websites hold by foreign corporations and operated in China.

Additionally, the link verification tool Xenu’s Link Sleuth, aims to check the broken links of tested websites, is also contributively to the measurement of websites (Choudrie, & Ghinea, et.al, 2004).

Finally, the prominent features of e-government websites are different according to various regions. For example, the inhabitants live in Africa concentrate on the following features, "not having fees for visiting", "health policies", and "not having premium fees" (Abebe, & Dewit, 2010). On the other hand, the investment and immigration policies are the most important features on the e-government websites of EU. In China, the most important features of the e-government websites are the attractiveness and usability.

3.4 The stages to establish a good e-government

According to the theory of Affisco and Soliman (2006), there are four main stages to establish good e-government services. Firstly, publishing static information on the
Website. Second is to interact with visitors. It allows visitors to download files from the E-governments, or offers search function. The third stage is to build transact services on the website, which enables citizens to transact all the work online without going to the relevant offices. The final one is transforming, which means the e-government website is a single-point portal, which integrates all the e-government services together by a serious of departments of government. Several obstacles could be encountered in the process of establishing a good E-government website. The first one is lack of infrastructure. And, the low literacy rates will affect the establishment of E-government website. Besides, political environment and national policies are the influencing factors to a huge extent. Additionally, in some cases, the most significant features of building an E-government are different in various cultural backgrounds.

E-government services need to satisfy two purposes. One is for governments to dispense the public duties and responsibilities, and the other is to offer effective and efficient automation services for citizens. The foremost focus of government websites should be the requirements of citizens.

3.5 The obstacles will be encountered

Several obstacles could be encountered in the process of establishing a good E-government website. The first one is lack of infrastructure. And, the low literacy rates will affect the establishment of E-government website. Besides, political environment and national policies are the influencing factors to a huge extent. Additionally, in some cases, the most significant features of building an E-government are different in various cultural backgrounds.
CHAPTER 4: FINDING AND ANALYSIS

4.1 Visibility Analysis

To evaluate the visibility of Shanxi e-government website, three search engines will be utilized. Two of them are Google and Yahoo, which are the top two search engines throughout the world, together with Baidu, the top search engine in China. Additionally, (Mofleh & Wanous, 2009) deem investigators could use more than one language to analyze the visibility of tested website. Therefore, "山西政府" and "Shanxi government" are the keywords, which the Chinese version and English Version. Finally, the test will be conducted in the two assessment entries of Google and Yahoo.
4.1.1 First analysis result of Google search engine

The Google search engine is the most famous one all over the world. When conducting the search using "山西政府" as the keyword with Google, the Shanxi e-government website appears in the very first one of the results. Accordingly, it got 100 points. Figure 1 presents the search results from Google.com.

![Google search results for Shanxi government website](image-url)

Figure 1
4.1.2 Second analysis result of Google search engine

Typing “Shanxi Government” in the Search Bar of Google.com, the Shanxi e-government website ranked first, so it gains 100 scores in this part. The Figure 2 is the results of this search.

![Google search results for Shanxi Government](image)

**Figure 2**
4.1.3 First analysis result of UK Yahoo search engine

The Shanxi province e-government website ranks the first of the results while searching "山西政府" with the "http://uk.yahoo.com/" website which is the second most popular search engine all around the world. The following is the screenshot of the results. Therefore, it gains 100 points in this analysis part.
4.1.4 Second analysis result of UK Yahoo search engine

On the other hand, there is no result related to the Shanxi e-government website in the first ten results when typing "Shanxi Government" in "http://uk.yahoo.com/", so it scores 0 points. The Figure 4 is the search results mentioned before.

![Figure 4](image-url)
4.1.5 First analysis result of CN Yahoo search engine

Interestingly, the tested website does not turn up in the first page of searching results either, when inputting "山西政府" in "http://cn.yahoo.com", consequently, it only gains 0 points.

Figure 5
4.1.6 Second analysis result of CN Yahoo search engine

Similarly, no results related to the Shanxi e-government website by utilizing "shanxi government" as search keyword in http://cn.yahoo.com/. So there is no score in this section. Figure 6 shows the corresponding results.

![Figure 6](image-url)
4.1.7 First analysis result of Baidu search engine

The Shanxi province e-government website ranks one for "山西政府" in baidu search which is the largest Chinese language search engine. The following is the snapshot of the results. Therefore, it gains 100 points in this part.
4.1.8 Second analysis result of Baidu search engine

However, Shanxi e-government website does not appear in the first ten results in Baidu search for "Shanxi Government", so it scores 0 points. The Figure 8 is the search results mentioned before.
Taking the average of the former four research results, the accessibility of Shanxi e-government website scores 50 points. The figure 9 is the final visibility analysis results. Based on the opinion of Mofleh and Wanous (2009), if the results is less than 80%, it is possible that low potential users would like to access to the tested e-government website. Consequently, there are less users would like to visit the Shanxi e-government website, which is caused by the low accessibility and limited promotion. Moreover, the promotion for users whose first language is English needs to be improved, for the tested website only could be sought out on Google.com.

<table>
<thead>
<tr>
<th>Search Engine Website</th>
<th>Google</th>
<th>Yahoo (China)</th>
<th>Yahoo (UK)</th>
<th>Baidu</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanxi E-government website</td>
<td>100%</td>
<td>0%</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>

The Figure 9 shows that there are no search results about the Shanxi e-government website when considering "山西政府" as keyword in "http://cn.yahoo.com/", but it could be found out in "http://uk.yahoo.com/". This is an abnormal result, for the percentage of potential users in China is less than the percentage of the world. It illustrates that the citizens in Shanxi province are not concerned about the building of Shanxi e-government website, and reflects Shanxi government has paid inadequate attention on it.

Accordingly, the Shanxi government needs to develop several measures to promote the Shanxi e-government website. Firstly, it is valuable to optimize the Meta that is used to provide metadata about the HTML document by abstracting the keywords from the content of each sector. Secondly, it's necessary to optimize the titles of each page by the means of extracting keywords as the page title that enables users to access to the website.
by searching keywords. Thirdly, to arrange for specialists to view the web pages of each subject that makes sure its simplicity and rationality is reasonable. Additionally, registering in the largest navigate website in China, such as http://www.265.com/ and http://www.hao123.com/, which helps to multiply the website's backward links. Eventually, apply for adding the hot link into other portals and local websites which have large traffic. To sum up, the five methods above could contribute in increasing the amount of visitors to the Shanxi e-government website.

4.2 Stage analysis

The stage analysis of Shanxi e-government website will be conducted from the following four aspects: Web presence, Interaction, Transaction, and Integration.

4.2.1 Web presence analysis

Web presence is a set of Web files about a specific subject which consists of a beginning file called a home page. For instance, the majority of corporations, governments or individuals all over the world who have websites have a unique web address, and users could access to their home page by using this web address. Additionally, users can get to all the other web pages on the sites from this home page.

The Shanxi e-government website offers a great deal of information, such as the information about education, transportation, together with a series of general trend of government affairs.

Firstly, plentiful content is a merit of this website. However, the homepage is too complicated to find the requisite information. The users will be lost in the sea of information and inflexible layout. For example, it is so hard for users to find the download service and service guideline, even though these services have been offered by the website. To add a navigation bar would facilitate the search process to some extent.

Moreover, a great deal of information about the government policy and introduction
information is available on the website, such as the information about tourism and investment. All of them help the citizens in Shanxi and outlanders have a comprehensive acquaintance on Shanxi province, and could make their lives more convenient.

On the other hand, it concentrates more on the government information about conferences, official activities, and a set of government news. But, the information that the citizens are concerned about more is closely related to their lives, not just the public information that has been published by the government. They are insensitive on what the officials are doing, but rather what they have solved. For instance, nine pieces of important news were available between August 5, 2010 and August 11, 2010 in the Shanxi e-government website, Figure 10 is a frame of the news motioned before, and Figure 11 is the translation of Figure 10.

<table>
<thead>
<tr>
<th>山西要闻</th>
<th>领导活动</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 全省事业单位改革领导小组会议在并召开</td>
<td>08-11</td>
</tr>
<tr>
<td>• 张建欣在太原调研食品市场安全监管</td>
<td>08-10</td>
</tr>
<tr>
<td>• 我省表彰群体和个人代表</td>
<td>08-09</td>
</tr>
<tr>
<td>• 全省司法行政工作会议召开</td>
<td>08-09</td>
</tr>
<tr>
<td>• 我省召开发展改革“十二五”规划座谈会</td>
<td>08-09</td>
</tr>
<tr>
<td>• 张建欣在临汾调研</td>
<td>08-06</td>
</tr>
<tr>
<td>• 文物普查领导小组召开扩大会议</td>
<td>08-06</td>
</tr>
<tr>
<td>• 我省召开城乡生态化建设会议</td>
<td>08-06</td>
</tr>
<tr>
<td>• 张平在长治调研科技教育工作</td>
<td>08-05</td>
</tr>
</tbody>
</table>

Figure 10

Important news/ Official activities in Shanxi Province

The leadership group convened the committee about the institution reforms in Shanxi province

Aug11
The Figure 11 reveals that five in nine important news were related to the conference, and three were about what the officials have done, the rest was only one activity which launched by Shanxi government. To sum up, there is nothing about the sports, entertainment, hot spots of society besides the government information especially the conferences. Consequently, the Shanxi government needs to pay more attention to the public life, and constitute an e-government website which provides a series of attractive information for users.

Furthermore, a serious defect is that a new webpage will appear once you click a link that
results in the big waste of time and effort of users. Therefore, all the web files need to be reclassified into two main categories.

All in all, the level of web presence about the Shanxi e-government website is relatively high. In addition, the home page needs to be simplified, which helps to gain the information they need quickly.

### 4.2.2 Interaction analysis

The Interaction analysis of an e-government website is to evaluate whether it enables users to interact with government staffs, which means that whether the website provides the service that responds to users’ requests. The interaction system is becoming an increasingly important feature in the building of modern e-government website. For example, most of the e-government websites allow users to give their feedback via email, or message board online.

The Shanxi e-government website provides the following ways to enable the interaction between users and the government, which are online interview, message board, forum, BBS, public survey, and the programs of complaint letters and visits conducted by all the country party secretary in Shanxi province. The Figure 12 shows the interaction service supplied by Shanxi e-government website, and the translation of it is the Figure 13.
From the previous Figure 13, it is obvious that the layout of the interaction section is confusing, which cause inconvenience to the users. For instance, the arrangement of each section is irrational, the online interview and public survey are not the most significant sections in the interaction. Additionally, the suggestions, online consulting, complaint, and public opinion channel are not the most attractive sections for the users by calculating the amount of users concerned about it. Besides, there is nothing available on the sub webpage opened after clicking social conditions and public opinion. All mentioned before demonstrates that the Shanxi e-government website is merely superficial, but established for catering for demand of users.
Furthermore, there are also two weak spots in the section of online investigation. Firstly, all the information is quite old, for the latest one was conducted in Sep 16, 2009. The figure 14 was taken in August 13, 2010, and it could illustrate the problem mentioned before.

Additionally, it is obvious that all the investigations were carried out around four independent days, which demonstrates that the goal of this section is not get response from users, but rather pursuing the superficial achievements.

Online investigation

Moreover, in terms of the online interviews shown on the website, several shortcomings exist. Firstly, the latest notice of the coming program is out of date, which was about the program in Sep 1, 2009. The Figure 15 was captured in August 13, 2010. It reflects that users have no interests on this module and the website concentrate less on this program. Additionally, no webpage files related to the online interview is available, when clicking the icon "提交反馈", there is nothing responded.
Finally, with respect to the discussion of political climate, it was conducted by various industries without taking the users’ opinion into consideration, which does not have the interactivity. Furthermore, all of them are unavailable for users, but several links unavailable to users have been published on the website without any words or videos.

The figure 16 is the screenshot of the political climate hotline, figure 17 is the corresponding screenshot of the subpage after clicking the drill-down icon in figure 16. It is evident that nothing exists in the webpage of the Shanxi Branch of Bank of China political climate hotline.
The Shanxi Branch of Bank of China political climate hotline

As to the Beijing e-government website, its interaction level is comparably higher than the Shanxi e-government website. Figure 18 shows some services have been provided for users to interact with the government. Firstly, from the aspect of political climate hotline, a large amount of users have participated in this activity, and all the advices have been taken into account. The Figure 19 reflects the status better. Furthermore, all the letters have been classified into four categories. It contributes to locating the specific information needed. Secondly, a large amount of interviews included the specific institutions are available on the online interviews page, and all the videos can be accessed, additionally, some detailed description was offered to facilitate the understanding for users.
The assessment of Shanxi E-government website

YAO WANG

Political climate hotline

Online interview

Online investigation

Figure 18

Latest letters Latest responses Users’ letters Responses Today’s letter

The time table in 2010

Figure 19
To sum up, the interaction level of Shanxi e-government website is comparatively low, just publish the government affairs on the website, but does not concentrate on the interaction with users, and even if some information is inaccessible. The user interaction of the Beijing e-government website has a better performance, thus lots of citizens have participated in.

Consequently, the Shanxi e-government website has to developed several measures to improve the user interaction. Above all, all the information should be accessible, and the website needs to establish a good mechanism to attract more visitors to participate in the activities.

4.2.3 Transaction analysis

Through actual experience in the online service, it could be concluded that the Shanxi e-government website has done a notoriously poor job in realizing office automation. The screenshot of main section for online service is figure 20, and the figure 21 is the translation of figure 20. It can be seen that the online service has been separated into two parts according to the different kinds of users, the first type is for the individuals, and a set of services are listed, such as the services associated with marriage, transportation, patents, and property. For another thing, services offered for organizations also are available. Particularly, Shanxi e-government website has provided green channels for the users with special needs, such as children, women, and tourists. At the same time, five primary types of services have been chosen and list in a particular sector. Finally, it has established the scene service for the users. In the next stage, all the points related to transaction analysis will be demonstrated deeply.
Above all, the services have been classified into different types in terms of the
departments which offer services to facilitate users' visit. For example, if the users have some questions about the process of marriage and divorce, it is easy to find the relative services in the Secretary for Home Affairs. And, the birth registration needs to be located in the department of Population and Family Planning Commission of Shanxi Province, which could be found in the list of departments. The Figure 22 has illustrated it clearly.

![Services Navigation](image)

**Figure 22**

However, after experiencing the online service, it has been found that only some policies and regulations are available on the corresponding departments. And the form download links, online consulting, online complaint, online application, and online query are invalid, in addition, the users fail to drill down to other pages. The figure 23 is the snapshot which illuminates this phenomenon in depth.

![Affairs](image)

**Figure 23**

Furthermore, through the channels of settling affairs online, the services of education, medical and health care, transportation, public service, and labor security could be performed. The following part will go into details about this section.
Firstly, as for the education, a great deal of information about nursery school, primary school, middle school is available online, which includes general guidance on tuition fee, transfer policies, and all the statistic information about the school premises in Shanxi province. However, any of them has no relationships with transaction, because users could not solve problems or trade, for instance, it can be considered to provide a channel for users to donate money to a school, or establish a platform to apply for scholarship. Furthermore, in the sector of searching results for the civil service exam and some other exams organized by the government, there are just few kinds of query method, moreover, some of them are invalid, when performing an inquiry using the method, no results return.

Secondly, it is possible to make an appointment with a doctor online by accessing to the medical and health service. As can be seen, the item 019 is the entry to the Shanxi health information website, where the users could make an appointment with a doctor whether the hospital is in Shanxi province or not. The figure 24 is a frame of online medical service, which could be found in the webpage of medical and health services.

![Figure 24](image_url)

The realization of making an appointment online is a good implementation of transaction. However, compared with Beijing e-government website, this module still has a worse performance, because various affairs have been settled by accessed to Beijing e-government website. For example, if a nurse needs to reregister to be a practicing
nurse, this application could be accomplished online without going to the actual office. In the process of application, it is possible for users to submit relative materials. The interface where users visit is shown as figure 25

Thirdly, when it comes to labor and social security fields, some links for searching social insurance information have been listed, which are presented in the following figure 26. It is the sole service with transaction performance. But, item 048 and item 047 were linked to a static web page, which could not accomplish the insurance inquiry of users.

Moreover, the Shanxi e-government has given a variety of services about transportation.
The most useful one seems to be the map inquiry service, after checking the content involved in, it has been found that only several links to some cities in Shanxi province are available, and none of them severs visitors the electronic map and public transportation route map such as the Google map and Baidu map. However, to provide the search service of the map is gradually urgent, for a rising amount of e-government websites begin to integrate the map service into their own websites. Therefore, it is rational to add this service. Additionally, in the section, to provide the feature of applying for license tag would be beneficial to users with this demand.

Lastly, the water supply service in the section of public service only has linked to the specific web address for each city in Shanxi province, which only involves the report schedules and notice, but no any reporting repair systems. Similarly, as to the electronic supply service, there is just the notice to cut power published by the electronic companies available. However, to prove the service about paying electronic and water bill online is becoming an increasing trend in the current e-government websites, so it implies Shanxi e-government website has a bad performance in this section.

To conclude, Shanxi e-government website is in the initial stage of establishing transaction service. It has built the basic frame to serve for users with the searching services and other trade services. The Beijing e-government website has done better on this section, which could be worthy to learn from.

4.2.4 Integration analysis

As analyzed above, it is evident that the integration level of Shanxi e-government website is extremely low, as all the services are provided by other agencies, the users have to link to other websites to access the services. Especially, the users have to access to another website repeatedly to handle different tasks within the same department. For example, the users need to find the service link of paying and querying system for telephone fees in the directory of communication services provided by Shanxi telecommunication if having any doubt about the telephone bill. Figure 27 is the frame of the communication services. And,
if they want to report repair of the telephones, they need to access from another entry which is also offered by Shanxi telecommunication. Consequently, to develop the further integration service of e-government website could facilitate the users.

Two main measures could be chosen to improve the integration level of the Shanxi e-government website. For one thing, it could be useful to come to an agreement between the Shanxi e-government website and other agencies to establish a sole portal, by which users can access to other service agents and conduct the services. For another thing, several common services provided by Shanxi e-government website can be carried out via accessing to the website directly, that brings convenience to users.

4.3 Usability analysis

The usability analysis of Shanxi e-government website will be conducted from the following six parts, which are online services, user-help, navigation, information architecture, legitimacy, and accessibility accommodation.

4.3.1 Online service

The online service will be evaluated from the services offered by Shanxi e-government website. A set of online services could be used by users, such as online query, governor mailbox, and online application. By evaluating the main features of them, several shortcomings have been found from the perspective of users, even though some specific services have been established.
The assessment of Shanxi E-government website

First of all, the information involved in the online service is unfriendly, for a vast amount of information involved in these services, there is no search bar to help users to locate the information needed easily and quickly. For example, the figure 28 shows that in the sector of online query, the available information has not been classified into different categories to facilitate querying, or providing a search bar for users.

![Status Inquiry](image)

Figure 28

Secondly, the majorities of resources involved in this sector do not exist in the Shanxi e-government website, but in some other service agencies, that slow down the download speed for information causes the bad user experience and bad user performance.

On the other hand, Shanxi e-government website provides users a service named personal customization, which enables users to reserve the specified information, such as news, notifications, and some policies on a specific subject. Shanxi e-government has a good performance on this point.
4.3.2 User help

User help, just as its name implies, a mechanism to help users to make better use of a website. At the bottom of each webpage included in the Shanxi e-government website, there is a "help" sector, as is shown in the figure 29 below. But, just a blank web page returns, when the users click the "Help" link. Consequently, the website designers and developers need to consider more on this part to improve the user experience.

![Figure 29](image)

For another thing, nearly all the services have attached the corresponding guidelines, which help to reduce the barriers in the process of website visiting. For instance, there is a personal subscription service provided by Shanxi e-government website to subscribe the news about Shanxi province. As for the detailed steps to subscription, the users can refer to user-help that can help users to minimize operating hours and extra effort.

4.3.3 Navigation

The navigation bar helps visitors to have a basic understanding of the website structure, and accelerates the process of locating information needed to some extent. The Shanxi e-government has a navigation bar for the users, which is at the top of the webpage. It separates all the information involved into 11 categories, which are About Shanxi, Government affairs, Online services, Interaction, Emergency management, "Investment in Shanxi, Travel in Shanxi, Agriculture services, Special column, Video in Shanxi, and Personal subscription. Furthermore, there are a set of sub items under each navigation item, that enable users to have a clear understanding of the main content of each section.

However, the navigation items listed in the navigation bar of Shanxi e-government website is not completely consistent with the main sectors shown in the site map, which implies that users could not access to the whole information throughout the navigation bar. For
instance, the public services involved in the site map are not available, but the emergency management and personal subscription exist in the navigation bar.

4.3.4 Information architecture

Shanxi e-government website has built a framework for information architecture on the means of site map, which could be found through the link in the bottom of each webpage. It includes all the information, services and modules involved in the website, which enable visitors to access to the information demanded effectively. But, it is impossible to utilize some sectors through the site map, such as the relative web pages related to the online service.

4.3.5 Legitimacy analysis

The Shanxi e-government website has a poor performance on the transaction module. Consequently, the features related to legitimacy are considerably limited. Therefore, it is rational to build the security mechanism for the designers and developers of the website to ensure the implementation of transaction service. To utilize security certificate is of significant practical value to the implementation of transaction services.

4.3.6 Accessibility accommodation

By practical experiencing the website, there is no targeted assistance to the users with special needs, except for the text’s size within some web pages can be changed. The website does not provide the corresponding programs to help the blinds, the old people, and the deaf and dumb. So the accessibility level of the Shanxi E-government website is very low.
4.4 Evaluation provided by specialized websites.

4.4.1 The analysis offered by Alexa.com

By typing the URL of Shanxi e-government website into the Alexa.com, a set of evaluation results have been presented. Firstly, there is a three-month global traffic rank of 201,811 calculated by Alexa.com. Almost 96.7 percentages of visitors accessed to the websites come from China, where it has attained a traffic rank of 22,055. And, there are only 636 websites linked to Shanxi e-government website, compared with up to 2511 sites linked to Beijing e-government website, which implies that there is the insufficient promotion conducted for this website. Moreover, it could be found in the “政府” category of websites. Approximately 75% of visits accessed to this website only viewed one webpage. On average, it takes 47 seconds to stay on each webpage by each visitor, and 82 seconds to visit the whole website.

![Figure 30](image)

From the figure 30, it is visible that under 0.002 percentages of global internet users visited the Shanxi e-government website, even the proportion has raised by 40% in the last three months. Furthermore, it could be concluded that the percentage of users accessed to Shanxi e-government website is much lower than the Beijing e-government website’s, which fluctuated around the 0.005 percents. Additionally, according to the
internet average, Shanxi e-government website is visited more frequently by users in the age range from 25 to 34 who have graduated from university and visit it at office.

For another thing, in the analysis results provided by Alexa.com, there is a click-stream sector presenting the sites which the users have visited just preceding the tested website, the figure 31 demonstrates the upstream sites of Shanxi e-government website. 114la.com and hao123.com are the most popular navigation websites in China, the “% of Unique Visits” of 114la.com and hao123.com in figure 31 proves that to add the hot link into the navigation websites would contribute to attracting more visits to a large extent. Besides, around 35.19% users have accessed to Baidu.com before visiting it, which demonstrates that to advance the search engine ranking is helpful to increase the website traffic.

<table>
<thead>
<tr>
<th>Upstream Sites</th>
<th>% of Unique Visits</th>
<th>Upstream Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>53.70%</td>
<td>114la.com</td>
</tr>
<tr>
<td></td>
<td>35.19%</td>
<td>baidu.com</td>
</tr>
<tr>
<td></td>
<td>11.11%</td>
<td>hao123.com</td>
</tr>
</tbody>
</table>

Figure 31

4.4.2 The analysis offered by Erigami.com

Figure 32 shows the evaluation results offered by Erigami.com, it involves five main parts, which are compliance summary, download details, and metadata, page in website, interactive status. From the part of compliance summary, it is visible that a set of problems exist in the accessibility, privacy, web site quality of the Shanxi e-government website, except for the good performance on interactive behavior. The issues involved in the website will be illustrated in detail in the next part.
The assessment of Shanxi E-government website

YAO WANG

Figure 32

Firstly, based on the standard of WCAG 1.2.3, as to the aspect of accessibility, 480 instances have been found, which could be classified into 22 categories. Especially, 287 problems related to the inline styles were found, which over the aggregate amount of problems existed in the Shanxi e-government website. Moreover, there are 23 warnings found in 531 instances. Additionally, most of the issues are resulted by the bad developing habits of the website designers and developers. However, the majority of them could not impact the user experience.

From the perspective of privacy, 33 instances were found. And, the overwhelming majority of them were about the third party links, which means that hyperlink to a web page with a
different domain name was found. In some cases, the corporate privacy standards may restrict the use of third-party links. A set of techniques may be required to inform users of their leaving from corporate website, for example, by providing intermediate warning page with two options, to return back or to proceed. But, 29 web pages in the Shanxi e-government website have no corresponding interface.

Finally, few problems of the web page quality exist in the Shanxi e-government website, which implies that the quality of the web page is good.
The assessment of Shanxi E-government website

YAO WANG

27 warnings in 531 instances

<table>
<thead>
<tr>
<th>WCAG</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Blink text is found</td>
<td>2</td>
</tr>
<tr>
<td>11.2</td>
<td>Avoid deprecated language features</td>
<td>18</td>
</tr>
<tr>
<td>13.1</td>
<td>Link name/destination clash</td>
<td>10</td>
</tr>
<tr>
<td>14.3</td>
<td>Inline styles are found</td>
<td>207</td>
</tr>
<tr>
<td>2.1</td>
<td>Low luminosity contrast text is found</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Frame is detected</td>
<td>15</td>
</tr>
</tbody>
</table>

Privacy

6 issues in 37 instances

<table>
<thead>
<tr>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privacy policy link is missing</td>
<td>1</td>
</tr>
<tr>
<td>Web beacon without cookies is found</td>
<td>4</td>
</tr>
</tbody>
</table>
4.4.3 The analysis offered by Chinarank.org.cn

There is another tool http://www.chinarank.org.cn/ to gain information about traffic and ranking of Shanxi e-government website in China easily. It ranks the websites in China by measuring several key aspects of websites activities, ranging from the whole amount of visitors in millions of people per day and pageviews per capita, which has been calculated comprehensively and foreclosed the repetition. Moreover, it involves the features of corporate branding and background, and user experiences.

Above all, the following figure 34, which describes the ranking place of Shanxi e-government website in China in August 23, 2010, which shows that it ranks around the 10000, and it declined last week, even though its rank rise to 6925 at present.
The statistics of the top 8 websites which link to Shanxi e-government website in China is available in the [http://www.chinarank.org.cn/](http://www.chinarank.org.cn/), which presents the data collected from the August 15, 2010 to August 23, 2010, and it will be shown in the figure 35.

<table>
<thead>
<tr>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.baidu.com">www.baidu.com</a></td>
</tr>
<tr>
<td><a href="http://www.hao123.com">www.hao123.com</a></td>
</tr>
<tr>
<td><a href="http://www.sxkszx.cn">www.sxkszx.cn</a></td>
</tr>
<tr>
<td><a href="http://www.haod123.com">www.haod123.com</a></td>
</tr>
<tr>
<td><a href="http://www.46.com">www.46.com</a></td>
</tr>
</tbody>
</table>
4.4.4 The analysis offered by Xenu’s Link Sleuth

After analyzing the Shanxi E-government website using Xenu’s Link Sleuth, the whole link verification is done on normal links, frames, pictures, plug-ins, style sheets and other components, and then there is a report produced. According to the professional website verification, 30391 broken links reported. That can be classified into 5 categories involved: 1. not found (error code: 404) 2. no information to return (error code:04) 3. timeout(error code:12002) 4. no connection (error code:12029) 5. no such host (error code: 12007). Most of the broken links belong to the ‘not found’ category, and few dead links belong to the ‘no such host’ category. The large amount of the dead links within the Shanxi E-government website implies that the website has a bad quality about the broken link feature and it needs to be improved extremely urgently.

4.5 Interview session

In view of the actual situation of development of e-government websites in China, according to the methodology proposed in the previous sections, this section presents the user oriented evaluation of the performance of the Shanxi Province website.

4.5.1 Background of Respondents

To ensure the fairness and impartiality of the investigation, ten citizens from the Shanxi Province were chosen as respondents to be interviewed. They are from various
occurrences and have different education background, from different areas of Shanxi Province, including one teacher, two government employees, one doctor, two businessmen, one housewife, two students, and one old person.

4.5.2 Ethical considerations

In order to have the detailed information of the respondents, each of them was asked to answer the following questions about their personal information before the formal survey on the website.

The Questions are:

1) What is your sex?

2) How old are you?

3) What is your profession?

4.5.3 Survey Questionnaire

In order to have an overall and practical assessment of the Shanxi Province website, a survey was carried out based on the questionnaire listed below. The design of this questionnaire was based on the criteria for evaluating government websites, which is described in detail in the previous chapter. The following nine questions can evaluate the content, service and currency of the website more specifically.

The questions are:

1) Do you know the website?

2) How often do you visit the website?

3) When did you visit the website most recently?
4) What would you like to gain from the website?

5) What are the strengths and weaknesses of the website?

6) What about the update of information?

7) Is it useful to offer the information which you would like to gain?

8) Is it beautiful and attractive?

9) Do you have any suggestions for improving the website?

4.5.4 Previous Interview

This is the first round interview. I have been China to conduct the face to face interview, ten people who are chosen based on the principals mentioned previously are directly asked about the questions of the questionnaires.

4.5.4.1 Result

In this survey, all of them have never visited the Shanxi Province website.

4.5.4.2 Analysis

The result of the survey is so surprising by analyzing the results of interview combining with the personal information of the ten people and the traffic flow of the website from a professional website: Alexa.com.

All of them never visited the website. This illustrates that the website is not attractive for them, and they did not inclined to gain information from the website. There are some possible reasons for the very low visitors. The first one is the Shanxi government did not do enough to promote the website, which leads to the public know very little about website.
The second possible one is that most of them are busy working or studying, and cannot regularly on the internet. Additionally, the old people who have time don’t know how to access the internet.

Moreover, a website traffic monitor tool—ALEXA was used to make sure of the popularity of the website. The figure 36 below was screenshot on 20, July, 2010. With the help of this monitor tool, it is obvious that the network traffic flow of the website is extremely little comparing with the average network traffic of network users of other provinces in China.

From this analysis, it is concluded that although the survey result was very strange, there is no doubt of the authenticity.

4.5.5 Improved interview

To have a deep understanding of the website performance, a second round interview was carried out. But, it is impossible to carry out the face to face interview because I have to go back to the UK on the 1, July, 2010. Consequently, the idea of conducting online interview was proposed. Another ten citizens around me were asked to visit the website in two weeks when they are free. After two weeks, they were asked about the opinions of this website by the way of online interview. Moreover, some of them are incapable of surfing online, I show the webpage to them throughout remote control, and gather their opinions.
In addition, some questions listed in the first round interview were cut, such as the previous three questions, which aim to find the traffic information about the website. And, several new questions were added to the list. All the questions which have been used in the improved interview are:

1) Are you satisfied with the speed of the website?

2) Is it beautiful and attractive?

3) Are all the government affairs or news published in time?

4) Is there a service guideline? Proper or not?

5) Is there any on-line service interactions? If so, what about the efficiency? Can the message be treated in time?

6) What about the update of information?

7) Will you use the online email Box to suggest some proposals?

8) What would you like to gain from the website?

9) What are the strengths and weaknesses of the website?

10) Is it useful to offer the information which you would like to gain?

11) Do you have any suggestions for improving the website?

4.5.5.1 Result

Based on each question, the results of the interviews will be generalized into a table, and it helps readers have a clear sense of the opinion of the participants.
1) Are you satisfied with the speed of the website?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>Very good</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>Good</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>It is ok, the speed of opening the homepage is 9.79s by using the Dalian Netcom broadband</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence</td>
<td>Do you mean the reaction speed after submitting questions? I think it would be good, some of them are linked to online consulting.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information Technology</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>E-commence in foreign trade</td>
<td>I am satisfied with the speed of accessing this website, even though the exact figure could not be calculated.</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>Information technology</td>
<td>Basically satisfactory</td>
</tr>
<tr>
<td>Male</td>
<td>24</td>
<td>Software engineer</td>
<td>The opening speed is within the acceptable scale</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>Student</td>
<td>Basic satisfactory.</td>
</tr>
</tbody>
</table>
2) Is it beautiful and attractive?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>Just so so</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>It is not beautiful; I do not like the red color.</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>Just so</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>It is beautiful enough for the e-government website.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence</td>
<td>Beautiful, because red is the classical color.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information Technology</td>
<td>Basically satisfied, the e-government website does not need to be extremely beautiful.</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>Technology supporting</td>
<td>The website is beautiful, the layout is rational.</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>Information technology</td>
<td>Yes, it is beautiful.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence in foreign trade</td>
<td>Yes, it is unique and antique.</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>Student</td>
<td>I think the red color is too ugly.</td>
</tr>
</tbody>
</table>

Figure 38
3) Are all the government affairs or news published in time?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>Not all the news could be published in time, such as the entertainment news and sports news.</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>The publishing of information is in time, but rather involved all the news and affairs in the society, it focus more the details, which results in the lags behind of significant affairs.</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>Yes, but the news and policies are most published in words and it is not easily understood by all kinds of people who have different knowledge background.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>I have no idea because I am not often used this website.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence</td>
<td>Yes, all the information was put immediately.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information Technology</td>
<td>Yes</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>Technology supporting</td>
<td>A variety of regulations, policies, and several convenience services are offered, I am satisfied with the provision of government information, and cannot determine its timeliness as a common people.</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>Information technology</td>
<td>I have no idea.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence in foreign trade</td>
<td>Yes, the website timely releases all the information.</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>Student</td>
<td>Not very clear.</td>
</tr>
</tbody>
</table>
4) Is there a service guideline? Proper or not?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>There is no sufficient help information when demanded.</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>No, maybe it is useful to sever users a FAQ program.</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>It leaves a lot need to be desired, such as it fails to provide column about the College Entrance Examination and study abroad information.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>There is no assist service available.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence</td>
<td>Yes, it helps visiting to some extent.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information Technology</td>
<td>It only provides the corresponding guideline in the personal customization.</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>Technology supporting</td>
<td>I did not see any service guidelines, so it is possible to located in the insignificant places even though available.</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>Information technology</td>
<td>Never see the help service.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence in foreign trade</td>
<td>No service guideline is available.</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>Student</td>
<td>The link to user help is invalid.</td>
</tr>
</tbody>
</table>
5) Is there any on-line service interactions? If so, what about the efficiency? Can the message be treated in time?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>Yes</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>I do not know the efficiency of it because I never use it.</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>yes</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>Several interactive services have been served, but never use it. And the efficiency of it depends on the response speed and the resolve speed.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence</td>
<td>I did not use it before, but it assumes to be deal with immediately. The updating speed of the website is fast.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information Technology</td>
<td>I never use it before.</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>Technology supporting</td>
<td>Several online interactive services were provided, but most of them are perform practically no detailed function, just exist in name only.</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>Information technology</td>
<td>Yes, it provides the interactive services.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence in foreign trade</td>
<td>Yes, it provides the interactive services.</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>Student</td>
<td>The interaction service is provided, but I did not utilize it.</td>
</tr>
</tbody>
</table>
What about the update of information?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>Only generate</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>New information has been added every day.</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>Very good</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>I have no idea, because it is the first time access to this website.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commerce</td>
<td>The updating speed is very good, and a variety of information is available.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information Technology</td>
<td>Very fast.</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>Technology supporting</td>
<td>I am satisfied with the updating speed of the information, but, the updating speed of some timely information need to be increased.</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>Information technology</td>
<td>I have no idea about it.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commerce in foreign trade</td>
<td>Very good.</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>Student</td>
<td>General</td>
</tr>
</tbody>
</table>
7) Will you use the online email Box to suggest some proposals?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>No, I have no interest.</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>No, because it will not help a lot even using it.</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>I will not use it, because it is useless in my opinion.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence</td>
<td>Yes, I have used it to give a suggestion.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information Technology</td>
<td>Have no interest.</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>Technology supporting</td>
<td>I will not use it, as the lack of attractive mechanism of suggesting. It is quite significant to develop the quality of a website.</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>Information technology</td>
<td>No</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence in foreign trade</td>
<td>I will not use it to propose a suggestion.</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>Student</td>
<td>I have never use this service</td>
</tr>
</tbody>
</table>
8) What would you like to gain from the website?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>News and policies of government.</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>The new regulations and policies published by government, and the direction of government development.</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>Consulting specific questions.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>I would like to gain different kinds of news, involving the sports news, current events, together with several discussions about the hot spots in society which need the participation of publics.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence</td>
<td>News, consulting some special information, government affairs information, the links to other local government websites. And, I am interest in the development and change of Shanxi province.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information Technology</td>
<td>The news and events about information technology.</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>Technology supporting</td>
<td>Social news, government reports, and the reports about the public institutional management.</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>Information technology</td>
<td>Housing prices in Shanxi</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence in foreign trade</td>
<td>The information about news, tourism, and the government development.</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>Student</td>
<td>I am usually more concerned about the folk culture,</td>
</tr>
</tbody>
</table>
9) What are the strengths and weaknesses of the website?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>The homepage is too complicated to find demanded information.</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>It considers more on the schedule of the officials, and the public consider less on what they have done, but rather what they have solved.</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>It has done well on including a great deal of information which covers various areas. However, it has a bad performance on the layout of the information, which brings to obstacles to locating demanded information by visitors.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>The program of interactive communication weak in the application, and errors pages appeared in some cases.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commerce</td>
<td>No corresponding online consulting service was included in several sections, such as the online service. The link of tourism map is invalid. Some subpages in a same sector do not allow to be opened in a same web page.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information Technology</td>
<td>Strength: rich in content</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Weakness: no focus.</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>Technology supporting</td>
<td>It has a good performance to provide various information for the people which never been Shanxi province, and allow them to realize the basic condition. But it did not offer the information of investment and public examinations, which helps the people who want</td>
</tr>
</tbody>
</table>
The assessment of Shanxi E-government website  

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>27</td>
<td>Information technology</td>
<td>It lacks of the section of dealing with government affairs online.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence in foreign trade</td>
<td>Some web pages are failed to open, and no comment platform was offered for users.</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>Student</td>
<td>I think it has involved a variety of information, but not popular.</td>
</tr>
</tbody>
</table>

Figure 45

10) Is it useful to offer the information which you would like to gain?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>No, the government financial information is unavailable.</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>No, there is no information about hot spots in society, such as housing price dynamic and policies of tax reform.</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>Yes, it helps to acquaint with Shanxi province, and provide the tourism information for me.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>It is failed to offer the entertainment information I am interest. Too much government news about the officials.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence</td>
<td>The images about the tourism are insufficient.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information Technology</td>
<td>No, the news and dynamic of IT is unavailable.</td>
</tr>
<tr>
<td>Gender</td>
<td>Age</td>
<td>Profession</td>
<td>Result</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>Technology supporting</td>
<td>It provides the tourism information and hotel reserve information, but no information about investment and public examinations.</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>Information technology</td>
<td>Yes, it provides all the information demanded.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence in foreign trade</td>
<td>No detailed tourism information is provided, just several introductions.</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>Student</td>
<td>It can provide the information normally required.</td>
</tr>
</tbody>
</table>

Figure 46

11) Do you have any suggestions for improving the website?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Profession</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>Student</td>
<td>The information locating need to be more convenient.</td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>Information technology</td>
<td>The government should find the points focus by users and concentrate more on it.</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>White-collar in multinational company</td>
<td>The practicability of information need to be improved</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>E-business</td>
<td>It is significant to clarify the position setting of the website. The e-government website is a window for government to provide services, and offer services for public. It is crucial to provide a functional search bar.</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>E-commence</td>
<td>The website needs to establish a mechanism for users to query information fast.</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>Information</td>
<td>Imitating the foreign e-government websites.</td>
</tr>
</tbody>
</table>
Female 23 Technology supporting  A wide scale of services has been offered, but some of them have a bad performance on the practicability. The information related to interactive section need to be improved.

Male 27 Information technology  The website needs to be more practical for users.

Male 24 E-commerce in foreign trade  The information about a similar subject could be connected.

Female 20 Student  Concerning more about the needs of users.

Figure 47

4.5.5.2 Analysis

The result shows that the majority of the respondents give a medium appraisal of the website. The result will be analyzed based on the questionnaire in the following aspects:

1) Website design

First of all, the most majority of the participants are basically satisfied with the response speed of the website. Some assumed the website design is proper, and some others assist the layout the main page is too old to attract visitors. Moreover, there are two responders dislike the red color, which is the dominate hue of the main page. So it is rational to change the layout of the main page to cater for the popular taste. To change the red color to blue color would be a good idea, for most of the people would be neutral to common color.

2) The content of the website

Almost all the repliers appreciate low on the content of the website, even if the content is
abundant. It merely concentrates more about the government affairs and the government officials, but ignores the interest of the public, such as the information about tax reform and housing prices. Additionally, nearly half appreciate regard high on the information updating, and the rest have no idea of the updating, as they seldom access to the website, which implies the low traffic to some extent. However, the news and policies are most published in words, but without images and videos to facilitate the understanding of users.

3) The usability of the website

By analyzing the result of questions 4, 5, 7, it is concluded that all the participants never use the online services, because they have no confidence on the function of it. Furthermore, only one person has seen the user help service and used it, the rest of repliers argue that they never notice any assist services. Additionally, the most majority of responders claimed that they have no interest on using the Email Box to make suggestions. All the results motioned previously suggested that the promotion of online service in government website need to be improved.

The interaction columns can help them conveying their suggestions and problems to the principals, and the problems can be treated on time. However, the online interview column was not usually used and there seems very few public opinion polls carried out.

4) Comments and suggestions

The repliers have comments a lot and proposed a set of suggestions to improve the quality of Shanxi e-government website. Firstly, the content is abundant, but the main page is too complicated to find information. Accordingly, it is reasonable to offer a functional search bar for users to locating demanded information. Secondly, most of users acclaim that they have no interest about the government news and schedules of officials, so to add more information about the hot spots in society will be a good idea to attract more visitors. Finally, it has a bad performance on the realization of online offices.
4.5.6 Improving suggestions

In view of the popularity problem of the website, some suggestions are brought up. First, the performance of the website should be improved continually. Second, the government should promote and give publicity to the website, suggesting the citizens to read the policies and news on the website. The last, some brochures can be sent to every home telling them how to participate the government affairs through the website.
CHAPTER 5: CONCLUSION

5.1 Introduction

In this chapter, the first section is a broad summary of the key findings for this research. It has sought to evaluate the Shanxi E-government website from two different aspects. One is utilizing the analytics method proposed by Mofleh and Wanous in the year of 2009 to assess it from the perspective of visibility, stage, and usability. Furthermore, some specific evaluation tools have been proposed to analyze a set of significant features of the website, such as the Alexa.com, and Chinarank.com. The other is to interview several citizens in Shanxi province from various occupations, based on the results of the interview summed up, a series of suggestions have been put forwarded.

The chapter will also present an overview of the study outcome. Then, the limitation of the research will also be outlined from the aspect of time, accuracy, and reliability. Finally, it will touch on the areas that are recommended for further research in order to augment what this research has revealed.

5.2 Summary of the research

By using the two analysis methods motioned previously, the design, content, and usability of the websites have been analyzed. Several problems related to every aspects of the Shanxi E-government website have been found.

Firstly, the result of the first round interview shows that the vast majority of citizens in Shanxi province have not heard about this website, and never access to it. Otherwhile, it also presents that some users who are aware of this website have no interest in it. And, by analyzing the results produced by the evaluation tools, Alexa.com and Chinarank.com, it has been found that a small amount of users visit the website once per day, and most of them only view a few of web pages, even though the average of visitors per day has increased in the past three months, and the amount of web pages accessed by them ihas
also inclined. It implies that the low traffic is a most serious problem of the Shanxi E-government website, accordingly, the promotional efforts of the Shanxi E-government website need to be enhanced, and the information published is unattractive to the users. Furthermore, there is no English version for the website, which results in less than 3 percentages users are from abroad, accordingly, to establish a English version can attract more foreigners or overseas chinese to visit the Shanxi E-government website. Finally, some measures have been proposed to improve the traffic of the website.

As to the aspect of interface of website, the response speed of the website is good, even though a lot of information has been put on the home page. And, by analyzing the results of the interview, it is evident that most of the responses assist the website design is proper, in spite of few repliers assume the layout the of main page is too old to attract visitors. Besides, based on the responses from the participants, to change the dominate hue of the main page, from red to blue, would be useful to improve the user experience, because most of the people would be neutral to common color.

Moreover, there is a large amount of information filled with the home page, which results in the Shanxi E-government website is too complicated for users to locate the demanded information. And, the site map presented in the bottom of each web page is failed to be used in several web pages. Furthermore, several subtitles list in the site map is different from the items included in the navigation bar, which implies the unified of the website. Therefore, the Shanxi E-government website needs to serve visitors a search bar to query information, or establish a serviceable site map for locating the information quickly and efficiently, and regulate the navigation bar and site map.

By analyzing the content of the website, it is obvious that the Shanxi E-government website is rich in content, but considered more on the government affairs and news, together with the schedule of officials, but lack of the information related to the hot spots in society, such as the information about housing prices and tax reform. And, the responses from the interviews reflect that the vast majority of users cared nothing about news and schedules of the officials, instead of this, they need more tourism and public examination
information. Furthermore, most of the news and reports are presented in word without any images and tables which contribute in the understanding of this website. Therefore, the Shanxi E-government website needs to focus more on the information citizens’ interest. Additionally, some information involved in the website is too old, once more, most of the information in some sections was published in a few of independent days, which demonstrates that the goal of this section is not get response from users, but rather pursuing the superficial achievements.

Additionally, in some case, a lot of web pages were opened when the user querying the needed information, which brings out some troubles to them. Therefore, it is rational for the website to reclassify the categories of all the web page files, and two main categories can be concluded. From the web pages involved in the first category, the users will be drilled down to another web page. And from the other, the different content will be presented in the same web page. This measure could make the process of visiting more convenient.

By utilizing the professional tool which names Xenu Link Sleuth, a great deal of dead links has been found in the Shanxi E-government website. Some of the dead links are involved in the Shanxi E-government website, while some other are the links which fail to locate to other web pages provided in other agencies. The amount of the dead links is higher, the user experience is worse. Therefore, the Shanxi government needs to arrange the specific staff to make regular check and decrease the number of dead links to develop the quality of the website.

Furthermore, nearly all the videos involved in the website cannot be opened, for example, the sector of online interviews and discussion of political climate, included in the interactive sector of the website, try to present the content more directly and clearly throughout the videos, however, nothing but the titles is accessible for users. It illustrates that the Shanxi E-government website concern less on the accessibility of the users, but only design a basic frame for this module.
Additionally, the layout of each section of the website is confusing, for the sectors or programs displayed in the home page are not the ones attracting most users. For instance, a few of visitors consuming more time in the sectors of online interview and public opinion research, compared with others included in the section of interaction. Additionally, the suggestions, online consult, complaint, and public opinion channel are not the most attractive sections for the users by calculating the amount of users concern about it. Therefore, the Shanxi E-government website needs to consider in which parts the users are most interest, and rearrange the layout of the website.

The establishment of all the interaction services of the Shanxi E-government website is comparatively poor. Some of them are not connected closely with the life of citizens, so they are not inclined to take part in the activities proposed by the government. Further, some did not offer the interactive platform for users, but merely release the information.

From the aspect of construction of transaction services, it has a bad performance, as almost without any transaction services can be conducted on the Shanxi E-government website. On the other hand, the Beijing E-government website had successfully impelled a variety of transaction services online, for example, the citizens in Beijing can pay landline bills and some other bills. Consequently, it is reasonable to integrate more common services on the website, such as paying all kinds of bills in life, by using the experience of other E-government websites not only in China, but also other countries. Moreover, to increase the legitimacy of the website when adding transaction services is crucial for the designers and managers.

The integration of the Shanxi E-government website has a bad performance. Almost all the services are provided by other agencies, the Shanxi E-government just offers the corresponding links to the services. And, some links are inconsistent with the subject, once more, a set of links are failed to be opened. Two measures have been proposed to improve the integration of the website.

Another problem exist in the website is that some function modules have been designed,
but no realization of them. In addition, several instances have been identified to support this argument. What the Shanxi E-government website needs to do is to build corresponding program to achieve the website has expected. More function modules have not been realized, the worse the users experience is.

5.3 Limitation of the research

This research has conducted an in-depth analysis and assessment about the Shanxi E-government website, together with several measures for improving the quality of it. However, while undertaking this research has been viewed as a learning process, a few of limitations have been identified, which may have in a way affected the outcome of the research. The first limitation concern is the duration time of the research is only three months, which is too short to conduct a comprehensive study to examine each features of the Shanxi E-government website. And, I have to conduct the improved interview as the failure of the first round interview, and it takes two weeks to wait for the responses. It causes that there is insufficient time and effort to have a deeply analysis of the results of the interviews.

Secondly, the improved interview was conducted online because I have to go back to the U.K.,

Consequently, several problems could not be solved during the interview process. Firstly, the questions was designed in English, it causes that some participants are confused about what the questions exactly mean. Secondly, they just answer some question within a few of words. So, the reliability and authenticity of the responses from the users have been raised.

Finally, the ten participants involved in the improved interview are within a narrow age range 20-30 years, and some of them either are professionals, or students, but no unemployed, and unavoidably they sometimes show a little one-sidedness. Additionally, the group of repliers in the first interview is different from the participants in the improved
one, which brings about the inconsistency.

5.4 Recommendation of the research

From the examination of this research, it can be identified that the further research is imperative to be carried out to make a comparative finding of this research. As the conclusion mentioned, it is obvious that the Shanxi E-government website could benefit from the similar studies in the long term.

Although this study has made efforts to carry out the evaluation from the aspects of visibility, stages, usability of the Shanxi E-government website, some other aspects were overlooked. There is a column which provides the links of various websites, and has established a navigation of them. And it has established two sections to present the ranking information about the columns and articles included in the website. All the sections mentioned previously are significant to the user. Accordingly, it needs to be examined deeply.

Additionally, the researches about the obstacles which will be encountered in the establishment of an E-government website in China, have been proposed in the literature review, but did not be identified because of lack of time. It will contribute to the development of Shanxi E-government website.

In conclusion, the orientation of the further research is to examine the other features of the Shanxi E-government website, and to identify the obstacles encountered in the process of building a E-government website.
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