

## **DETERMINING THE FACTORS AFFECTING THE WEB SERVICES OF THE PROVINCIAL MUNICIPALITIES IN TURKEY THROUGH NOMINAL CORRELATION COEFFICIENTS**

Süleyman ŞAHİN  
The University of Düzce  
ssahin22@gmail.com

Yalçın KARAGÖZ  
The University of Abant İzzet Baysal  
ykaragoz01@hotmail.com

Kahraman ÇATI  
The University of Düzce  
kahramancati@duzce.edu.tr

### **Abstract**

Chi square tests, tests chi square origin, and correlation coefficient based on decreasing error of estimate can be used to determine whether there is any correlation between nominal variables, if so, direction and degree of it. Nominal correlation measures used in crosstab and advantages-disadvantages of them were given in the study. Correlation measures were determined by taking the size of variables and measure degrees into consideration, and with the help of these correlation measures, it was tried to determine the effect of province size, regions and political parties on municipality web services. According to the results of the analyses; firstly, whereas 61% of web services were not affected by the province size, 39% of them were, secondly, 86% of them were not affected by the region while 14% of them were, and finally, whereas 92% of them were not affected by political parties, 8% of them were.

**Key Words:** Correlation Coefficient, Municipality Web Services

### **I. INTRODUCTION**

Web services has become an important factor for publicity, advertisement and image of institutions. Municipalities have gotten an opportunity to make public what they do and plan to do. Further,

municipalities are able to obtain public's demands and complains thanks to web sites.

Some of the basic reasons of widely usage of web sites by institutions (Yılmaz, 2009);

- The cheapest advertisement way
- 24 hours working cyber display
- A prestige way
- The fastest way to introduce products and firms and
- The shortest method to find new markets and to increase income

Many academic studies with regard to web sites have been made considering benefits of web sites to institutions. While many academic studies go through e-activities of institutions (Güleş et. al, 2002; Acar et. al, 2003; İnan and Doğan, 2006), some assess content of web sites (Öksöz and Yıldız, 2007; Karamustafa et. al, 2002). Çatı and Işkın tried to determine whether web pages of municipalities showed any differences in regard with city bigness, region where the city located and political party which mayor had. In that work, it will be tried to determine whether there is any relation among web sites of municipalities & city bigness, region where the city located, and political party which mayor has.

Correlation and degree between variables are determined with correlation coefficient. If one of two associative variables is known, by being used the known variable, values of other variable can be determined. If while one variable increases, the other also increases and while one variable decreases, the other also decreases, that means there is a (directly related) positive correlation. If one variable increases but the other decreases or vice versa, that means there is negative correlation. Correlation measures are determined according to measure levels variables obtained. Measure levels can be nominal, ordinal, interval scale and rational. Nominal scale classifies objects or events. Ordinal scale lines up, interval scale lines up equal and ratio scale is valid for all mathematical functions. Non-paramedic techniques are used in data of nominal and ordinal scales data. Paramedic techniques are used in data of interval and rational scales. At cross tables, generally, independent variables constitute lines and dependent variables constitute columns. Correlation scales mostly measure the correlation between nominal scale variables. But, more credible results are obtained when the scale used in data nears rational scale.

## **II. THE GOAL OF THE RESEARCH**

The aim of the research is to determine the effect and correlation of city bigness on web services of regions and political parties.

## **III. THE MATERIAL OF THE RESEARCH**

The population of the research consists of the provincial municipalities in Turkey. The research was carried out on the whole population.

## **IV. THE METHOD OF THE RESEARCH**

### **4.1. Reliability, validity and normality situation of data**

The reliability of the data is very high at reliability tests which are used to determine the reliability and validity of data because Cronbach Alpha value is 0,861. The ultimate point that can be reached for validity is as much as square root of reliability coefficient. So, validity value is  $\sqrt{0,861} = 0,93$ . Reliability can put an upper limit for validity but cannot ensure its validity at all. So, content validity has been ensured for the prepared survey by being scrutinized by experts (Karasar, 2005:151-152, Karagöz-Çatı-Koçođlu, 2009: 10). Whether the data dispersed normally or not was examined via Kolmogorov-Smirnov test because the data number was more than 29. Abnormal data disperse was seen because Sign value was lower than 0,05.

### **4.2. Chi-Square ( $\chi^2$ )**

It deals with number of experimental subjects, objects, and answers which get into myriad categories in many studies. Such as, a group of people can be classified according to answers they gave to a certain survey. Researcher may want whether an answer will come up more when compared to other answers. Chi-square test are used in such situations and especially in tests related to qualitative attributes which determined by counting (Kartal, 1998: 103). Correlation test between two events separated into diverse categories is done with independent test. Bidirectional table which shows observed frequencies belonging to these events is called coefficient-table or cross-tab. That table is in the form of

rxk which constituted as r line – k column. Null hypothesis means “these two events are free from each other and do not affect one another, unconnected”. Alternative hypothesis means “events are not unconnected from each other”. If table is in the form of 2x2, the test which will be applied is decided according to bigness of expected values. Pearson Chi-square test for  $e_{ij} \geq 25$ , Yates Chi-square test (Continuity Correction) for  $5 \leq e_{ij} < 25$ , Fisher’s exact Chi-square test for  $e_{ij} < 5$  are used (Özdamar, 2002: 488, Akgül-Çevik, 2003: 160). Chi-square test is the first that come in mind when correlation between variables is searched. Chi-square test can explain whether there is correlation or not, but its direction and bigness. Chi-square test has another disadvantages; the usage of chi-square can give a faulty outcome if the expected value belonging to a category is a low number. Because a low expected value may increase the value of chi-square. Namely, the lower the expected value becomes, the higher chi-square value becomes. In that case, null hypothesis will be rejected. So, while applying chi-square test, it is necessary that expected value must not be lower than 1 and % 20 higher of it must not be lower than 5. Chi-square independent test is not independent from its sample size. The effect of sample size on test statistics is nullified in all Chi-square rooted correlation scales. Chi-square rooted correlation co-efficient is sensitive scale toward the size of contingency tables and toward lines & columns overalls and there are serious difficulties in their interpreting.

Info about mis-usage of chi-square has been mentioned in essays which were written by Levis-Burke, Peters, Pastore, Edwards-Burke, Steger, Wright, Rich and et. al (Daniel, 1990: 206). Therefore, while looking for a correlation between two variables, the rest of correlation coefficient must be used. Correlation coefficient based on decreasing error estimation was developed to able to remove disadvantages of chi-square rooted scales.

### **4.3. Chi-Square Rooted Correlation Measures**

The effect of sample size on test statistics is nullified in all these correlation measures. Chi-square is used because it is important.

#### **4.3.1. Phi ( $\Phi$ ) Coefficient**

It usually measures the bigness of correlation between two variables (2x2 dimensional). It takes values between -1 and +1. If coefficient is 0, that means there is no correlation between variables

(independent). If it is 1, there is full positive correlation between variables. If it is -1 there is full negative correlation between variables (dependent). If sizes are bigger than 2x2, that coefficient cannot catch values close to upper limit.  $\Phi$  coefficient that was gotten from 2x2 dimensional tabs are equal to Pearson Cross Moment correlation coefficient and takes the same value with Cramer's V (Sheskin, 2004: 534-536, Dytham, 2003: 172, Akgül-Çevik, 2003: 166, Altunşik et. al, 2006, 195-198, Daniel, 1990: 401, Öztuna, et. al, 2007: 161).

#### **4.3.2. Pearson's Contingency Coefficient**

Contingency coefficient is the type which measures the bigness of correlation between two variables at IxJ dimensional tabs of  $\Phi$  coefficient. It takes values between 0 and 1. 1 represents for full correlation. 0 represents that there is no correlation (independence). Even if the results are more trusted when lines and columns are equal, it can be used when results aren't equal. Some researchers indicate that contingency coefficient obtained from 5x5 dimensional small contingency tabs aren't trustable and should not be used (Oktay, 2003: 43, Blaikie, 2003: 98-100, Nakip, 2003: 277).

#### **4.3.3. Cramer's V**

Different from contingency coefficient, Cramer's V measures the strength of correlation between IxJ dimensional variables which are free of line and column. It takes values between 0 and 1. 0 represents for no-correlation. If it is being accounted by square type tab and correlation level is 1, that case reflects full correlation. If tab is not square type, value 1 does not show full correlation. Cramer's V gives similar results with contingency coefficient when it is 2x2, and it becomes equal with Kendall's Tau statistics. (Pett, 1997: 234-235, Bryman-Cramer, 2005: 228).

### **4.4. Correlation Measures based on Decreasing Error of Estimation**

Chi-square based on correlation coefficient is sensitive to the size of contingency tabs, lines and columns overall. Correlation coefficient based on decreasing error of estimation was developed to cover disadvantages of chi-square based correlation measures.

#### **4.4.1. Goodman-Kruskal Tau Coefficient ( $\tau$ )**

$\tau$  coefficient measures compatibility between variables. Tau coefficient ranges between -1 and +1. Value -1 shows full negative compatibility, value 0 shows disharmony ( independence), value +1 shows full positive compatibility (Özdamar, 2003: 269-270, Oktay, 2003: 54, Wholey-Hatry-Newcomer, 2004: 449-450).

#### **4.4.2. Theil's Uncertainty Coefficient**

That coefficient is not symmetrical. Different uncertainty coefficient is acquired if dependent and independent variables replace. It measures at what level independent variable decrease uncertainty at dependent variable. Stated coefficient is between 0 and 1. If coefficient takes value 0, that shows full uncertainty- if takes 1 that shows full certainty. Uncertainty coefficient can explain full correlation in least predictable situations. If independent variable can explain the change at dependent variable exactly, its uncertainty coefficient becomes 1. Symmetrical coefficient should be assessed carefully. Theil's symmetrical uncertainty coefficient must be used to determine the correlation level between variables if which variable is dependent variable is not known precisely (Öztuna-Elhan-Kurşun, 2007: 162, Özdamar, 2003: 271, Muth, 2006: 445-446, Oktay, 2003: 54, 59-60).

If positive correlation level is  $r = 0$ , that means there is not any correlation between X and Y. If  $0,00 < r \leq 0,25$ ; very weak positive correlation, if  $0,26 \leq r \leq 0,49$ ; weak positive correlation, if  $0,50 \leq r \leq 0,69$ ; moderate positive correlation, if  $0,70 \leq r \leq 0,89$ ; strong (high) positive correlation, if  $0,90 \leq r < 1$ ; very strong (very high) positive correlation, if  $r = 1$ ; full positive correlation (Kalaycı et. al 2006: 116). Similarly, if negative correlation level is  $-0,25 \leq r < 0,00$ , that means there is very weak negative correlation, if  $-0,49 \leq r \leq -0,26$ ; weak negative correlation, if  $-0,69 \leq r \leq -0,50$ ; moderate negative correlation, if  $-0,89 \leq r \leq -0,70$ ; strong (high) negative correlation, if  $-1 < r \leq -0,90$ ; very strong (very high) negative correlation, if  $r = -1$ ; full negative correlation.

## **V. THE ANALYSIS AND FINDINGS OF THE STUDY**

Analysis was made to determine the effect of city bigness, regions and political parties on municipality web services and results as

below acquired. Analysis was applied at 5 % relevance level. Thus, assessments were done like; if sing value is lower than 0.05, there is correlation and it is important, if sign value is bigger than 0.05, there is no correlation and it is unimportant. Besides, not to take up much space; Phi, Cramer`s V, Contingency Coefficient, Lambda, Goodman-Kruskal Tau uncertainty coefficient will not be shown in different tabs separately but only their correlation coefficient and geometrical average of sign values will be given. Furthermore, at these tabs, Fisher certain chi-square will be showed with “f” and Yates chi-square will be showed with “y”.

### **5.1. Correlation between Municipality Web Services and City Bigness**

	The correlation of chi-square according to sing value	The correlation of correlation coefficient according to sign value	The level of correlation
Information about the province	0,797 unimportant(f)	0,588 unimportant	
History of the municipality	0,502 unimportant(y)	0,339 unimportant	
Information and CV of the municipal administrators	0,433 unimportant(y)	0,286 unimportant	
Fields that municipality display activity	0,072 unimportant(f)	0,072 unimportant	
Organization scheme	0,917 unimportant(y)	0,698 unimportant	
Opinions and personal data of the mayor	0,094 unimportant(f)	0,065 unimportant	
Mission of the municipality	0,011 important(f)	0,008 important	$0,08 \leq r \leq 0,31$
Vision of the municipality	0,011 unimportant(f)	0,008 important	$0,08 \leq r \leq 0,31$
Emblem of the municipality	0,604 unimportant(f)	0,809 unimportant	
Directorates within municipality	0,201 unimportant(f)	0,210 unimportant	
Information about municipality council	0,215 unimportant(y)	0,276 unimportant	
Municipality Council Decisions	0,426 unimportant(y)	0,282 unimportant	
Annual reports of the municipality or directorates	0,396 unimportant(f)	0,537 unimportant	
Announcements	0,396 unimportant(f)	0,271 unimportant	

Online journal and newspaper	0,174 unimportant(f)	0,210 unimportant	
Booklets related to service and activities of municipality	0,214 unimportant(y)	0,128 unimportant	
Advertising films related to activities of municipality	0,807 unimportant(y)	0,594 unimportant	
Municipal Press Bulletin	0,729 unimportant(y)	0,529 unimportant	
Archive for Press members	0,039 important(y)	0,018 important	0,06≤r≤0,27
E-books related to municipality	0,002 important(f)	0,000 important	0,17≤r≤0,42
Pictures and photos of municipal personnel	0,054 unimportant(f)	0,063 unimportant	
Schedule of the next activities of municipality	0,017 important(y)	0,007 important	0,07≤r≤0,31
Information required for getting across with municipality	0,735 unimportant(f)	0,988 unimportant	
Activities executed by municipality	0,068 unimportant(f)	0,072 unimportant	
Seminars, fairs and conferences arranged by the municipality	0,000 important(f)	0,000 important	0,14≤r≤0,42
Information about the seminars, fairs and conferences arranged by the municipality	0,033 important(y)	0,019 important	0,06≤r≤0,27
Sponsorships of the municipality	0,003 important(f)	0,001 important	0,13≤r≤0,35
Activities executed by the name of social responsibility of municipality	0,043 important(f)	0,020 important	0,06≤r≤0,26
e-mail of municipality	0,674 unimportant(f)	0,983 unimportant	
forum for the visitors of the page to write their opinions	0,345 unimportant(y)	0,220 unimportant	
information about Complaint and Request Line	0,524 unimportant(f)	0,813 unimportant	
Department of Obtaining Information	0,165 unimportant(f)	0,170 unimportant	
direct mailing to the Mayor	0,736 unimportant(f)	0,536 unimportant	
Sms or Wap service	0,010 important(f)	0,006 important	0,09≤r≤0,32
Questionnaires that municipality applied	1,000 unimportant(y)	0,870 unimportant	İliřki yok
applications to find fast working solutions for the problems of citizens (white table)	0,035 important(y)	0,037 important	0,04≤r≤0,23

In Fisher`s certain chi-square test analysis; because sign value turned out higher than 0.05, the phrase at web **-the fields municipality functions-** was decided that it is free from city bigness (p=0,072). In

other correlation measure values, it appeared that there is no correlation between city bigness and the phrase 'the fields municipality functions' ( $\Phi = 0,203$  and  $p = 0,072$ ,  $V = 0,120$  and  $p = 0,072$ ,  $CC = 0,119$  and  $p = 0,072$ ,  $\text{Tau} = 0,041$  and  $p = 0,073$ ,  $UC = 0,085$  and  $p = 0,069$ ).

In Fisher's certain chi-square test analysis; because sign value turned out lower than 0.05, the phrase at web **-mission and vision of the municipality-** was decided that it is not free from cities ( $p = 0,011$ ). In other correlation measure values, it appeared that there is weak positive correlation between city bigness and the phrase 'mission and vision of the municipality' ( $\Phi = 0,306$  and  $p = 0,007$ ,  $V = 0,306$  and  $p = 0,007$ ,  $CC = 0,293$  and  $p = 0,007$ ,  $\text{Tau} = 0,094$  and  $p = 0,007$ ,  $UC = 0,076$  and  $p = 0,010$ ).

In Yates' chi-square test analysis; because sign value turned out lower than 0.05, the phrase at web **-archive for press members-** was decided that it is not free from cities ( $p = 0,039$ ). In other correlation measure values, it appeared that there is weak positive correlation between city bigness and the phrase 'archive for press members' ( $\Phi = 0,267$  and  $p = 0,018$ ,  $V = 0,267$  and  $p = 0,072$ ,  $CC = 0,258$  and  $p = 0,018$ ,  $\text{Tau} = 0,071$  and  $p = 0,019$ ,  $UC = 0,054$  and  $p = 0,021$ ).

In Fisher's certain chi-square test analysis; because sign value turned out lower than 0.05, the phrase at web **-e-books related to the municipality-** was decided that it is not free from cities ( $p = 0,002$ ). In other correlation measure values, it appeared that there is weak positive correlation between city bigness and the phrase 'e-books related to the municipality' ( $\Phi = 0,414$  and  $p = 0,000$ ,  $V = 0,414$  and  $p = 0,000$ ,  $CC = 0,383$  and  $p = 0,000$ ,  $\text{Tau} = 0,171$  and  $p = 0,000$ ,  $UC = 0,192$  and  $p = 0,001$ ).

In Fisher's certain chi-square test analysis; because sign value turned out higher than 0.05, the phrase at web **-pictures belonging to staff and actions of the municipality-** was decided that it is free from cities ( $p = 0,054$ ). In other correlation measure values, it appeared that there is not a positive correlation between city bigness and the phrase 'pictures belong to staff and actions of the municipality' ( $\Phi = 0,210$  and  $p = 0,062$ ,  $V = 0,210$  and  $p = 0,062$ ,  $CC = 0,205$  and  $p = 0,062$ ,  $\text{Tau} = 0,044$  and  $p = 0,064$ ,  $UC = 0,049$  and  $p = 0,063$ ).

In Yates' chi-square test analysis; because sign value turned out lower than 0.05, the phrase at web **-the schedule showing what activities the municipality is going to do in the future-** was decided that it is not free from cities ( $p = 0,017$ ). In other correlation measure values, it appeared that there is weak positive correlation between city bigness and the phrase 'the schedule which the municipality is going to do in the future' ( $\Phi = 0,301$  and  $p = 0,007$ ,  $V = 0,301$  and  $p = 0,007$ ,

CC=0,288 and  $p=0,007$ , Tau =0,091 and  $p=0,008$ , UC = 0,067 and  $p=0,009$ ).

In Fisher`s certain chi-square test analysis; because sign value turned out higher than 0.05, the phrase at web **–the actions carried out by the municipality** - was decided that it is free from cities ( $p=0,068$ ). In other correlation measure values, it appeared that there is not a positive correlation between city bigness and the phrase ‘the actions which the municipality realized’ ( $\Phi=0,203$  and  $p=0,072$ ,  $V=0,203$  and  $p=0,072$ , CC=0,002 and  $p=0,072$ ,  $\gamma=0,000$ , Tau =0,041 and  $p=0,073$ ), Uncertainty coefficient show that there there is weak positive correlation between the phrase ‘the actions which the municipality realized’ and city bigness (UC = 0,085 and  $p=0,020$ ).

In Fisher`s certain chi-square test analysis; because sign value turned out lower than 0.05, the phrase at web **–seminars and conferences held by the municipality-** was decided that it is not free from cities ( $p=0,000$ ). In other correlation measure values, it appeared that there is weak positive correlation between city bigness and the phrase ‘seminars and conferences the municipality held’ ( $\Phi=0,420$  and  $p=0,000$ ,  $V=0,420$  and  $p=0,000$ , CC=0,388 and  $p=0,000$ , Tau =0,177 and  $p=0,000$ , UC = 0,134 and  $p=0,000$ ).

In Yates` chi-square test analysis; because sign value turned out lower than 0.05, the phrase at web **–info about exhibition, fair and contests organized by the municipality-** was decided that it is not free from cities ( $p=0,017$ ). In other correlation measure values, it appeared that there is weak positive correlation between city bigness and the phrase ‘info about exhibition, fair and contests which the municipality held’ ( $\Phi=0,271$  and  $p=0,016$ ,  $V=0,271$  and  $p=0,016$ , CC=0,262 and  $p=0,016$ ,  $\gamma=0,211$ , and  $p=0,040$ , Tau =0,074 and  $p=0,017$ , UC = 0,055 and  $p=0,014$ ).

In Fisher`s certain chi-square test analysis; because sign value turned out lower than 0.05, the phrase at web **–sponsorships of the municipality-** was decided that it is not free from cities ( $p=0,003$ ). In other correlation measure values, it appeared that there is weak positive correlation between city bigness and the phrase ‘sponsorship of the municipality’ ( $\Phi=0,371$  and  $p=0,001$ ,  $V=0,371$  and  $p=0,001$ , CC=0,348 and  $p=0,001$ , Tau =0,138 and  $p=0,001$ , UC = 0,128 and  $p=0,003$ ).

In Fisher`s certain chi-square test analysis; because sign value turned out lower than 0.05, the phrase at web **–actions carried out by the municipality as social responsibilities of itself-** was decided that it is not free from cities ( $p=0,019$ ). In other correlation measure values, it

appeared that there is weak positive correlation between city bigness and the phrase ‘actions which the municipality realized as social responsibilities of itself’ ( $\Phi=0,259$  and  $p=0,021$ ,  $V=0,259$  and  $p=0,021$ ,  $CC=0,259$  and  $p=0,021$ ,  $\text{Tau}=0,067$  and  $p=0,022$ ,  $UC=0,053$  and  $p=0,017$ ).

In Fisher’s certain chi-square test analysis; because sign value turned out lower than 0.05, the phrase at web –**SMS or WAP services**- was decided that it is not free from cities ( $p=0,010$ ). In other correlation measure values, it appeared that there is weak positive correlation between city bigness and the phrase ‘SMS or WAP services’ ( $\Phi=0,318$  and  $p=0,005$ ,  $V=0,318$  and  $p=0,005$ ,  $CC=0,303$  and  $p=0,005$ ,  $\text{Tau}=0,101$  and  $p=0,005$ ,  $UC=0,090$  and  $p=0,009$ ).

In Yates’ chi-square test analysis; because sign value turned out lower than 0.05, the phrase at web –**applications which can easily solve citizens’ problems (white table)**- was decided that it is not free from cities ( $p=0,038$ ). In other correlation measure values, it appeared that there is weak positive correlation between city bigness and the phrase ‘applications which can easily solve citizens’ problems (white table)’ ( $\Phi=0,233$  and  $p=0,038$ ,  $V=0,233$  and  $p=0,038$ ,  $CC=0,227$  and  $p=0,038$ ,  $\text{Tau}=0,054$  and  $p=0,040$ ,  $UC=0,041$  and  $p=0,035$ ).

## **5.2. Correlation between Municipality Web Services according to Regions**

Chi-square and chi-square based correlation scales were not used in analysis at that part because % 20 higher of expected values was lower than 5. So, Tau and Uncertainty coefficient were used.

	The correlation of correlation coefficient according to sign value	Level of Correlation
Information about the province	0,620 unimportant	
History of the municipality	0,739 unimportant	
Information and CV of the municipal administrators	0,143 unimportant	
Fields that municipality display activity	0,160 unimportant	
Organization scheme	0,229	

	unimportant	
Opinions and personal data of the mayor	0,158 unimportant	
Mission of the municipality	0,018 important	$0,18 \leq r \leq 0,20$
Vision of the municipality	0,008 important	$0,18 \leq r \leq 0,20$
Emblem of the municipality	0,638 unimportant	
Directorates within municipality	0,005 important	$0,24 \leq r \leq 0,26$
Information about municipality council	0,157 unimportant	
Municipality Council Decisions	0,057 unimportant	
Annual reports of the municipality or directorates	0,235 unimportant	
Announcements	0,161 unimportant	
Online journal and newspaper	0,223 unimportant	
Booklets related to service and activities of municipality	0,576 unimportant	
Advertising films related to activities of municipality	0,700 unimportant	
Municipal Press Bulletin	0,870 unimportant	
Archive for Press members	0,151 important	
E-books related to municipality	0,399 important	
Pictures and photos of municipal personnel	0,560 unimportant	
Schedule of the next activities of municipality	0,573 unimportant	
Information required for getting across with municipality	0,160 unimportant	
Activities executed by municipality	0,741 unimportant	
Seminars, fairs and conferences arranged by the municipality	0,012 important	$0,19 \leq r \leq 0,20$
Information about the seminars, fairs and conferences arranged by the municipality	0,020 important	$0,14 \leq r \leq 0,19$
Sponsorships of the municipality	0,450 important	
Activities executed by the name of social responsibility of municipality	0,117 important	
e-mail of municipality	0,230 unimportant	

forum for the visitors of the page to write their opinions	0,365 unimportant	
information about Complaint and Request Line	0,694 unimportant	
Department of Obtaining Information	0,153 unimportant	
direct mailing to the Mayor	0,580 unimportant	
Sms or Wap service	0,193 unimportant	
Questionnaires that municipality applied	0,618 unimportant	
applications to find fast working solutions for the problems of citizens (white table)	0,620 unimportant	

There is a weak positive correlation between region and the phrase at web **'the mission and vision of municipality'** (Tau =0,167 and p=0,042, UC = 0,198 and p=0,008).

There is a weak positive correlation between region and the phrase at web **'directorships at municipality structure '** (Tau =0,242 and p=0,004, UC = 0,262 and p=0,005).

There is a weak positive correlation between region and the phrase at web **'seminars and conferences which the municipality held'** (Tau =0,190 and p=0,022, UC = 0,188 and p=0,006).

There is a weak positive correlation between region and the phrase at web **'info about exhibitions, fairs and contests which the municipality held'** (Tau =0,186 and p=0,024, UC = 0,142 and p=0,017).

### **5.3. Correlation between Municipality Web Services according to Political Parties**

Chi-square and chi-square based correlation scales were not used in analysis at that part because % 20 higher of expected values was lower than 5. So, Tau and Uncertainty coefficient were used.

	The correlation of correlation coefficient according to sign value	The level of correlation
Information about the province	0,009 important	0,24≤r≤0,58
History of the municipality	0,580	

	unimportant	
Information and CV of the municipal administrators	0,214 unimportant	
Fields that municipality display activity	0,836 unimportant	
Organization scheme	0,571 unimportant	
Opinions and personal data of the mayor	0,671 unimportant	
Mission of the municipality	0,882 unimportant	
Vision of the municipality	0,882 unimportant	
Emblem of the municipality	0,638 important	0,32≤r≤0,34
Directorates within municipality	0,180 unimportant	
Information about municipality council	0,219 unimportant	
Municipality Council Decisions	0,831 unimportant	
Annual reports of the municipality or directorates	0,770 unimportant	
Announcements	0,350 unimportant	
Online journal and newspaper	0,467 unimportant	
Booklets related to service and activities of municipality	0,677 unimportant	
Advertising films related to activities of municipality	0,412 unimportant	
Municipal Press Bulletin	0,713 unimportant	
Archive for Press members	0,823 unimportant	
E-books related to municipality	0,291 unimportant	
Pictures and photos of municipal personnel	0,784 unimportant	
Schedule of the next activities of municipality	0,547 unimportant	
Information required for getting across with municipality	0,011 important	0,24≤r≤0,26
Activities executed by municipality	0,381 unimportant	
Seminars, fairs and conferences arranged by the municipality	0,447 unimportant	
Information about the seminars, fairs and conferences arranged by the municipality	0,521 unimportant	

Sponsorships of the municipality	0,745 unimportant	
Activities executed by the name of social responsibility of municipality	0,783 unimportant	
e-mail of municipality	0,703 unimportant	
forum for the visitors of the page to write their opinions	0,09 unimportant	
information about Complaint and Request Line	0,521 unimportant	
Department of Obtaining Information	0,095 unimportant	
direct mailing to the Mayor	0,253 unimportant	
Sms or Wap service	0,811 unimportant	
Questionnaires that municipality applied	0,518 unimportant	
applications to find fast working solutions for the problems of citizens (white table)	0,142 unimportant	

There is a weak positive correlation between political parties and the phrase at web **'data belonging to the city'** (Tau =0,240 and p=0,042, UC = 0,581 and p=0,008).

There is a weak positive correlation between political parties and the phrase at web **logo of the municipality'** (Tau =0,317 and p=0,002, UC = 0,337 and p=0,001).

There is a weak positive correlation between political parties and the phrase at web **'necessary info to be able to contact the municipality'** (Tau =0,234 and p=0,011, UC = 0,255 and p=0,010).

## VI. ARGUMENT AND RESULT

In that study, lacks of chi-square test were taken into consideration while searching for correlation between variables, and a series of nominal correlation coefficient which are appropriate to its data type was given to satisfy these lacks. The effect and relation of these correlation coefficient, city bigness, regions and political parties on web services of municipalities were tried to be determined.

Within the framework of the analysis done, it has been understood that statements such as 'Info related to the city, the history of the municipality, CVs or info about municipality directors, organizational schemata of the municipality, views and personal info of the Mayor, logo

of the municipality, directorships in municipality structure, info about municipality board, Municipal council decisions, annual reports of municipality and directorates, announcements, online journal and newspaper, booklets related to activities and services of municipality, advertising films related to municipal activities, municipal press bulletins, information required for getting across with the municipality, e-mail of municipality, forum for the visitors of the page to write their opinions, information about Complaint and Request Line, Department of Obtaining Information, direct mailing to the Mayor' are independent from **the sizes of the provinces**, thus do not affect these web services of **the sizes of the provinces**.

Within the framework of the analysis done, it has been understood that statements such as 'Fields that municipality display activity, mission and vision of the municipality, archive for the press members, e-books related to municipality, pictures and photos of the activities and personnel of municipality, schedule of the next activities of municipality, activities executed by municipality, conferences and seminars held by municipality, information about exhibition, fair and contests arranged by municipality, sponsorships of municipality, activities executed by the name of social responsibility of municipality, Sms or Wap service, applications to find fast working solutions for the problems of citizens (white table)', are not independent from the region, thus these affect these web services of **the sizes of the provinces**. Therefore, it has been determined that 22 of the analyzed services are not affected by **the size of the provinces** and 14 of them are affected by **the sizes of the provinces**.

Within the framework of the analysis done, it has been seen that statements such as 'information about the province, history of the municipality, information or CV about the municipality Administrators, fields that municipality display activity, organization scheme of the municipality, opinions and personal data of the mayor, emblem of the municipality, information about municipality council, municipality council decisions, annual reports of municipality and directorates, announcements, Online journal and newspaper, booklets related to activities and services of municipality, advertising films related to Municipal activities, municipal press bulletin, archive for press members, e-books related to municipality, schedule of the next activities of municipality, activities executed by municipality, sponsorships of municipality, activities executed by the name of social responsibility of municipality, pictures and photos of the activities and personnel of municipality, information required for getting across with the municipality, e-mail of municipality, forum for the visitors of the page to

write their opinions, information about Complaint and Request Line, Department of Obtaining Information, direct mailing to the Mayor, Sms or Wap service, applications to find fast working solutions for the problems of citizens (white table)' are independent from **the region**, thus these web services are not affected by **the region**. the framework of the analysis done, it has been understood that statements such as 'information about mission and vision of municipality, directorates within municipality, seminars and conferences held by municipality, exhibitions, fair and contest arranged by municipality' are not independent from **the region**, thus **the region** does not affect the web services. Therefore, it has been determined that 31 of the 36 analyzed services are not affected by **the region** but that 5 of them are affected by **the region**.

Within the framework of the analysis done, it has been determined that statements such as 'history of municipality, information or CV about the municipality Administrators, fields that municipality display activity, organization scheme of the municipality, opinions and personal data of the mayor, mission and vision of municipality, directorates within municipality, information about municipal council, municipal council decisions, annual reports of municipality or directorates, announcements, Online journal and newspaper, booklets related to activities and services of municipality, advertising films related to Municipal activities, municipal press bulletin, archive for press members, e-books related to municipality, schedule of the next activities of municipality, activities executed by municipality, information about seminars and conferences held by municipality, exhibitions, fair and contests arranged by municipality, sponsorships of municipality, activities executed by the name of social responsibility of municipality, pictures and photos of the activities and personnel of municipality, e-mail of the municipality, forum for the visitors of the page to write their opinions, information about Complaint and Request Line, Department of Obtaining Information, direct mailing to the Mayor, Sms or Wap service, applications to find fast working solutions for the problems of citizens (white table)' are independent from the **political parties**, thus **political parties** do not affect these web services. It has been understood that statements such as 'information about the province, emblem of the municipality and information required for getting across with the municipality' are not independent from political parties, thus **political parties** do not affect these web services. Therefore, 33 of 36 analyzed services are not affected by **political parties** and 3 of them are affected by **political parties**.

Moreover; concepts of web services that are affected by the size of the province, regions and parties differ, too. Concepts such as “fields that municipality display activity, mission and vision of municipality, archive for press members, seminars and conferences held by municipality, exhibitions, fair and contests arranged by municipality, sponsorships of municipality, activities executed by the name of social responsibility of municipality, pictures and photos of the activities and personnel of municipality, municipality, schedule of the next activities of municipality, activities executed by municipality, information about e-books related to Sms or Wap service, applications to find fast working solutions for the problems of citizens (white table)” are affected from **the size of province**, concepts such as “ mission and vision of the municipality, directorates within the municipality, seminars and conferences held by municipality, information about exhibition, fair and contests arranged by municipality” are affected by **regions** and concepts such as “ information about the province, emblem of the municipality, information required for getting across with the municipality’ are affected by **the parties**.

As a result, it is seen that, firstly the size of the province, secondly region and thirdly political party, has influence on website services. Reflection of these results to the websites may stem from the quality of the mayor or the quality of the ones in the administration of the municipality as well as from the other factors. A new study may be executed for the purpose of revealing the factors in question. Doing new academic studies will be important in terms of literature in order to determine the extent of contentment for the services citizens got from the websites or the extent of relation between the services they got and were expectant for.

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