***The role of mechanisms to bridge the digital divide in promoting e-governance in developing countries with the application to the Arab Republic of Egypt***

**Introduction**

The phenomenon of the digital divide is one of the most important challenges faced by governments in developing countries to enhance governance. Accordingly, the research focused on the following objectives:

1. An in-depth analysis of the digital divide and a study of its dimensions, causes, and mechanisms to overcome it.

2. Studying the concept of e-governance, its determinants and benefits, and the scientific contribution on how to enhance it

Successful international experiences.

3. Examining the nature and direction of the relationship between the mechanisms of bridging the digital divide and enhancing electronic governance in

government sectors.

4. The role of mechanisms for bridging the digital divide in promoting e-governance in the Arab Republic of Egypt in the light of

Sustainable Development Goals 2030.

we will use SPSS software to understand each of the mechanisms, causes and dimensions of digital divide.

we surveyed 172 persons and the survey included 2 groups which will focus on and they include:

-1st group “mechanisms for bridging the digital divide “includes technological mechanisms, knowledge mechanisms and electronic mechanisms.

-2nd group “e-governance” includes the quality of electronic services, transparency of information, electronic participation, and electronic accountability.

Each of the above subgroups included several statements that helped evaluating an indicator index for each group of statements.

***The regression analysis***

**First: descriptive analysis**

We are going to analyze first the years of experience and the gender of each surveyor.

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| --- | --- | --- | --- | --- | --- |
| **Descriptive Statistics table 1** | | | | | |
|  | N | Minimum | Maximum | Mean | Std. Deviation |
| Years of Experience | 172 | 1.0 | 36.0 | 16.515 | 7.0086 |

* For the years of experience variable, the mean number of years is 16.515 years of experience in our dataset and the standard deviation is 7.0086 years which is a big value indicating that the data is spread out. we have a minimum number of experience years of 1 years and a maximum number of 36 years.

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| --- | --- | --- | --- | --- | --- |
| **Gender table 2** | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | أنثى | 72 | 41.9 | 41.9 | 41.9 |
| ذكر | 100 | 58.1 | 58.1 | 100.0 |
| Total | 172 | 100.0 | 100.0 |  |

* For the gender variable, we can see from table 2 that 72 surveyors were females with 41.9%, and there were 100 male surveyors with 58.1%.

We now will analyze the 2 groups included in the survey.

First group: mechanisms for bridging the digital divide

This is a table that includes 1st group and its 3 subgroups variables.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Descriptive Statistics table 3** | | | | | |
|  | N | Minimum | Maximum | Mean | Std. Deviation |
| اآلليات\_التكنولوجية | 172 | 1.17 | 5.83 | 4.3624 | 1.02651 |
| اآلليات\_المعرفية | 172 | 1.00 | 5.00 | 3.5523 | .98755 |
| اآلليات\_الكترونية | 171 | 2.33 | 5.00 | 4.0520 | .71495 |
| المحور\_الاول | 171 | 1.88 | 5.28 | 3.9864 | .80002 |

* For the technological mechanism’s subgroup, we have a mean of 4.3624 which means that the average surveyors answer to the technological mechanisms 6 statements was 4.3624 level of satisfaction. the standard deviation is 1.02651 which means that the data is spread out. The maximum level of satisfaction submitted to this subgroup is 5.83 and the minimum is 1.17.
* For the knowledge mechanism’s subgroup, we have a mean of 3.5 which means that the average surveyors answer to the knowledge mechanisms 5 statements was 3.5 level of satisfaction. the standard deviation is 0.987 which means that the data is clustered around the mean. The maximum level of satisfaction submitted to this subgroup is 5 and the minimum is 1.
* For the electronic mechanism’s subgroup, we have a mean of 4.05 which means that the average surveyors answer to the electronic mechanisms 9 statements was 4.05 level of satisfaction. the standard deviation is 0.7149 which means that the data is clustered around the mean. The maximum level of satisfaction submitted to this subgroup is 5 and the minimum is 2.33.
* As for the whole first group variable “mechanisms for bridging the digital divide”, the mean is 3.986 which means that the average surveyor’s level of satisfaction in the first group is 3.986, the standard deviation is 0.8 which means that the data is clustered around the mean. the maximum level of satisfaction in this group is 5.28 and the minimum is 1.88.

Second group “e-governance”:

This is a table that includes the 2nd group and its 4 subgroups variables.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Descriptive Statistics table 4** | | | | | |
|  | N | Minimum | Maximum | Mean | Std. Deviation |
| جودة\_الخدمات\_اإللكترونية | 172 | 1.33 | 5.00 | 3.6793 | .95480 |
| شفافية المعلومات | 172 | 1.00 | 5.00 | 3.7393 | .91361 |
| المشاركة\_اللكترونية | 172 | 1.57 | 5.00 | 3.7666 | .84748 |
| المساءلة\_االلكترونية | 171 | 1.00 | 5.00 | 3.7156 | .95247 |
| المحور\_الثاني | 171 | 1.35 | 5.00 | 3.7287 | .82833 |

* For the electronic services quality subgroup variable, we have a mean of 3.67 which means that the average surveyors answer to the electronic services quality 6 statements was 3.67 level of satisfaction. the standard deviation is 0.9548 which means that the data is clustered around the mean. The maximum level of satisfaction submitted to this subgroup is 5 and the minimum is 1.33.
* For the transparency of information subgroup, we have a mean of 3.7393 which means that the average surveyor’s answer to the transparency of information in its 6 statements was 3.7393 level of satisfaction. The standard deviation is 0.913 which means that the data is clustered around the mean. The maximum level of satisfaction submitted to this subgroup is 5 and the minimum is 1.
* For the electronic participation subgroup, we have a mean of 3.7666 which means that the average surveyors answer to the electronic participation 7 statements was 3.7666 level of satisfaction. The standard deviation is 0.847 which means that the data is clustered around the mean. The maximum level of satisfaction submitted to this subgroup is 5 and the minimum is 1.57.
* For the electronic accountability subgroup, we have a mean of 3.7156 which means that the average surveyors answer to the electronic accountability 11 statements was 3.7156 level of satisfaction. The standard deviation is 0.952 which means that the data is clustered around the mean. The maximum level of satisfaction submitted to this subgroup is 5 and the minimum is 1.
* As for the whole second group variable “e-governance”, the mean is 3.728 which means that the average surveyor’s level of satisfaction in the second group is 3.728, the standard deviation is 0.828 which means that the data is clustered around the mean. The maximum level of satisfaction in this group is 5 and the minimum is 1.35.

**Second: correlation analysis**

We are going to do a correlation analysis for each group separately associated with its subgroups.

**1st group mechanisms for bridging the digital divide:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Correlations table 5** | | | | | |
|  | | اآلليات\_التكنولوجية | اآلليات\_المعرفية | اآلليات\_الكترونية | المحور\_الاول |
| اآلليات\_التكنولوجية | Pearson Correlation | 1 | .755\*\* | .617\*\* | .923\*\* |
| Sig. (2-tailed) |  | .000 | .000 | .000 |
| N | 172 | 172 | 171 | 171 |
| اآلليات\_المعرفية | Pearson Correlation | .755\*\* | 1 | .545\*\* | .898\*\* |
| Sig. (2-tailed) | .000 |  | .000 | .000 |
| N | 172 | 172 | 171 | 171 |
| اآلليات\_الكترونية | Pearson Correlation | .617\*\* | .545\*\* | 1 | .787\*\* |
| Sig. (2-tailed) | .000 | .000 |  | .000 |
| N | 171 | 171 | 171 | 171 |
| المحور\_الاول | Pearson Correlation | .923\*\* | .898\*\* | .787\*\* | 1 |
| Sig. (2-tailed) | .000 | .000 | .000 |  |
|  | | | | | |

* The person correlation coefficient between technological mechanisms and the first group is 0.923 which indicated a very strong positive relationship.
* The person correlation coefficient between knowledge mechanisms and the first group is 0.898 which indicated a very strong positive relationship.
* The person correlation coefficient between electronic mechanisms and the first group is 0.787 which indicated a strong positive relationship.

**2nd group “e-governance”:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Correlations table 6** | | | | | | |
|  | | جودة\_الخدمات\_اإللكترونية | شفافية\_المعلومات | المشاركة\_اللكترونية | المساءلة\_االلكترونية | المحور\_الثاني |
| جودة\_الخدمات\_اإللكترونية | Pearson Correlation | 1 | .703\*\* | .719\*\* | .754\*\* | .886\*\* |
| Sig. (2-tailed) |  | .000 | .000 | .000 | .000 |
| N | 172 | 172 | 172 | 171 | 171 |
| شفافية\_المعلومات | Pearson Correlation | .703\*\* | 1 | .792\*\* | .767\*\* | .903\*\* |
| Sig. (2-tailed) | .000 |  | .000 | .000 | .000 |
| N | 172 | 172 | 172 | 171 | 171 |
| المشاركة\_اللكترونية | Pearson Correlation | .719\*\* | .792\*\* | 1 | .798\*\* | .911\*\* |
| Sig. (2-tailed) | .000 | .000 |  | .000 | .000 |
| N | 172 | 172 | 172 | 171 | 171 |
| المساءلة\_االلكترونية | Pearson Correlation | .754\*\* | .767\*\* | .798\*\* | 1 | .919\*\* |
| Sig. (2-tailed) | .000 | .000 | .000 |  | .000 |
| N | 171 | 171 | 171 | 171 | 171 |
| المحور\_الثاني | Pearson Correlation | .886\*\* | .903\*\* | .911\*\* | .919\*\* | 1 |
| Sig. (2-tailed) | .000 | .000 | .000 | .000 |  |
| N | 171 | 171 | 171 | 171 | 171 |

* The Pearson correlation coefficient between the quality of electronic services and the second group is 0.886 which indicated a very strong positive relationship between them.
* The Pearson correlation coefficient between the transparency of information and the second group is 0.903 which indicated a very strong positive relationship between them.
* The Pearson correlation coefficient between the electronic participation and the second group is 0.911 which indicated a very strong positive relationship between them.
* The Pearson correlation coefficient between the electronic accountability and the second group is 0.919 which indicated a very strong positive relationship between them.

**Third: reliability analysis**

In analyzing our data, we are going to ensure that each group of questions of a subgroup reliably measure the subgroup variable they correspond to for example we are going to measure if the first 6 questions reliably measure the technological mechanism subgroup. We are going to test this using Cronbach alpha, it cut off point is 0.6 which means that starting from 0.6 is acceptable.

This is a constructed table for each subgroup Cronbach alpha and for the group as whole Cronbach alpha.

Table 7

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| group | subgroup | Statements | Cronbach alpha for the subgroups | Cronbach alpha for the group |
| **mechanisms for bridging the digital divide** | technological mechanism | S6->S12 | 0.886 | 0.939 |
| Knowledge mechanism | S13->S17 | 0.882 |
| Electronic mechanism | S18->26 | 0.897 |
| **E-governance** | Electronic services quality | 27->32 | 0.884 | 0.97 |
| Information transparency | 33->38 | 0.906 |
| Electronic participation | 39->45 | 0.896 |
| Electronic accountability | 46->56 | 0.947 |

Comment:

* We can see that all of the subgroup variables associated with their 2 group variables there Cronbach alphas values ranged from 0.88-0.97, which indicates a high level of internal consistency for our scale with this sample. so, we can say that all of our variables are reliable.