**SUPPLEMENTARY DOCUMENT**

1. **DESCRIPTIVE ANALYSIS**

Descriptive analysis of the survey data consists of three main sections as Computer Usage, E-readiness and General Background.

**1.1. Computer Usage**

***Users and non-users of a computer***

**Table 1.1**: Users and non-users of a computer

|  |  |  |
| --- | --- | --- |
| Category | Number | Percentage |
| Computer users | 278 | 93% |
| Non-computer users | 22 | 7% |

***Reasons for not using a computer***

Respondents who had not used a computer were asked to identify three most relevant reasons out of the six given options namely;

a. Computer usage was not required b. Computer usage was not knowledgeable

c. Computer usage was difficult d. Had no computer at home

e. Financial constraints f. Other

Table 1.2 provides the frequency of each rank specified, in each reason.

**Table 1.2:** Reasons for not using a computer

|  |  |  |
| --- | --- | --- |
| Reason | Rank frequency | Total |
| Rank 1 frequency | Rank 2 frequency | Rank 3 frequency |
| a | 1 | 2 | 2 | 5 |
| b | 0 | 1 | 1 | 2 |
| c | 3 | 3 | 4 | 10 |
| d | 7 | 9 | 1 | 17 |
| e | 9 | 1 | 5 | 15 |
| f | 1 | 1 | 1 | 3 |
| Total |  | 52 |

In this rank order scaling question, a score (weight) has been given to three ranks.

[The procedure of giving a score is as follows: The frequencies of the three ranks were multiplied by weights 0.5 or 0.3 or 0.2 such that the highest rank (i.e. rank 1) is multiplied by the highest weight (i.e. 0.5) and so on. In practice, these weights are chosen such that the sum of the weights is equal to one]

Then reasons can be compared meaningfully. The following table depicts the total score and percentage of each reason considering the first three ranks specified by the respondents.

**Table 1.3:** Reasons for not using a computer considering order of ranking

|  |  |  |  |
| --- | --- | --- | --- |
| Reason | Score of first three ranks | Total score | Percentage |
| Rank 1 score | Rank 2 score | Rank 3 score |
| a | 1\*0.5 = 0.5 | 2\*0.3 = 0.6 | 2\*0.2 = 0.4 | 1.5 | 8% |
| b | 0\*0.5 = 0.0 | 1\*0.3 = 0.3 | 1\*0.2 = 0.2 | 0.5 | 3% |
| c | 3\*0.5 = 1.5 | 3\*0.3 = 0.9 | 4\*0.2 = 0.8 | 3.2 | 17% |
| d | 7\*0.5 = 3.5 | 9\*0.3 = 2.7 | 1\*0.2 = 0.2 | 6.4 | 35% |
| e | 9\*0.5 = 4.5 | 1\*0.3 = 0.3 | 5\*0.2 = 1.0 | 5.8 | 32% |
| f | 1\*0.5 = 0.5 | 1\*0.3 = 0.3 | 1\*0.2 = 0.2 | 1.0 | 5% |
| Total |  | 18.4 | 100% |

Figure 1.1: Reasons for not using a computer considering order of ranking

***Main purposes of using a computer***

In order to assess for what purposes computers were used, respondents were asked to identify three main uses out of the seven given uses namely:

a. Education & learning activities b. Leisure activities c. Surfing internet

d. For e-mails e. Office work f. Self employment

g. Other

The following table depicts the percentages of each factor by calculating total score considering the first three ranks identified by the respondents.

**Table 1.4:** Purpose of using a computer considering order of ranking

|  |  |  |
| --- | --- | --- |
| Factor | Faculty | Total |
| Science | Arts | Law | Mgt & Finance | Medicine |
| a | 36% | 58% | 57% | 47% | 37% | 47% |
| b | 29% | 20% | 19% | 19% | 38% | 25% |
| c | 19% | 7% | 6% | 18% | 11% | 12% |
| d | 10% | 0% | 1% | 10% | 8% | 6% |
| e | 2% | 8% | 11% | 6% | 3% | 6% |
| f | 2% | 6% | 5% | 0% | 2% | 3% |
| g | 2% | 1% | 1% | 0% | 1% | 1% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% |

**Figure 1.2:** Purpose of using a computer considering order of ranking

***Frequency of using a computer***

The factors used for this purpose are;

a. Daily b. Several times a week c. Once a week

d. Once a month c. Rarely

**Table 1.5:** Frequency of using a computer

|  |  |  |
| --- | --- | --- |
| Factor | Faculty | Total |
| Science | Arts | Law | Mgt & Finance | Medicine |
| a | 50% | 17% | 21% | 35% | 20% | 29% |
| b | 38% | 24% | 29% | 38% | 37% | 33% |
| c | 9% | 38% | 35% | 11% | 16% | 22% |
| d | 0% | 7% | 4% | 3% | 10% | 5% |
| e | 3% | 14% | 11% | 13% | 17% | 11% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% |

**Figure 1.3:** Frequency of using a computer

***Locations of using a computer***

Multiple locations were possible to identify out of the six given locations namely;

a. Home b. Internet Cafe c. Study Institution

d. School e. Friends/relatives place f. Other

3**Table 1.6** Locations of using a computer

|  |  |  |
| --- | --- | --- |
| Factor | Faculty | Total |
| Science | Arts | Law | Mgt & Finance | Medicine |
| a | 32% | 17% | 18% | 37% | 39% | 29% |
| b | 15% | 6% | 6% | 11% | 5% | 9% |
| c | 18% | 33% | 31% | 16% | 16% | 24% |
| d | 18% | 26% | 24% | 24% | 25% | 22% |
| e | 16% | 13% | 11% | 11% | 15% | 13% |
| f | 1% | 5% | 10% | 2% | 0% | 3% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% |

**Figure 1.4:** Locations of using a computer

***Software packages used***

The survey sought to determine what kind of software packages were largely used by respondents. In order to do that, respondents were asked to rank three mostly used packages out of the given packages namely;

a. Ms Office packages b. Database Management

c. Computer Graphics d. Web Designing

e. Other

Percentages of the each factor after calculating total score considering the first three ranks specified by the respondents is shown in the following table.

**Table 1.7:** Software packages used considering order of ranking

|  |  |  |
| --- | --- | --- |
| Factor | Faculty | Total |
| Science | Arts | Law | Mgt & Finance | Medicine |
| a | 59% | 69% | 78% | 66% | 72% | 69% |
| b | 10% | 13% | 9% | 9% | 5% | 9% |
| c | 19% | 12% | 9% | 14% | 16% | 14% |
| d | 6% | 2% | 4% | 7% | 7% | 5% |
| e | 6% | 4% | 0% | 4% | 0% | 3% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% |

**Figure 1.5:** Software packages used considering order of ranking

***Methods of obtaining computer knowledge***

Respondents were asked to rank three methods of obtaining computer knowledge out of the given packages namely;

a. Computer courses followed b. School c. Self study

d. Family members e. Another person f. Other

Percentage of each factor after calculating total score considering the first three ranks mentioned by the respondents is shown in the following table.

**Table 1.8:** Methods of obtaining computer knowledge considering order of ranking

|  |  |  |
| --- | --- | --- |
| Factor | Faculty | Total |
| Science | Arts | Law | Mgt & Finance | Medicine |
| a | 36% | 43% | 41% | 32% | 35% | 37% |
| b | 14% | 20% | 22% | 25% | 19% | 20% |
| c | 31% | 15% | 21% | 30% | 28% | 25% |
| d | 10% | 9% | 5% | 7% | 8% | 8% |
| e | 8% | 11% | 9% | 6% | 10% | 9% |
| f | 1% | 2% | 2% | 0% | 0% | 1% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% |

 **Figure 1.6:** Methods of obtaining computer knowledge considering order of ranking

**1.2. E-readiness**

***Computer Awareness***

**Table 1.9:** Computer Awareness

|  |  |  |  |
| --- | --- | --- | --- |
|  | Total number | Number of computer aware | Percentage of computer aware |
| Male | 109 | 71 | 65% |
| Female | 191 | 108 | 57% |
| Total | 300 | 179 | 60% |

***Computer Literacy***

**Table 1.10:** Computer Literacy

|  |  |  |  |
| --- | --- | --- | --- |
|  | Total number | Number of computer literate | Percentage of computer literate |
| Male | 109 | 55 | 50% |
| Female | 191 | 85 | 45% |
| Total | 300 | 140 | 47% |

***Internet usage***

From the sample of 300, only 278 had used computers, and the analysis of internet users from them is presented below.

**Table 1.11:** Internet usage

|  |  |  |  |
| --- | --- | --- | --- |
|  | Total number | Number of internet users | Percentage of internet users |
| Male | 101 | 64 | 63% |
| Female | 177 | 100 | 56% |
| Total | 278 | 164 | 59% |

***Purpose of using internet***

In order to assess for what purposes internet was used, a rank order scaled-response question was used. In that question, respondents were asked to rank three purposes out of the seven following purposes.

a. Education & learning activities b. Leisure activities c. For getting information

d. Communication e. Office work f. Self employment

g. Other

**Table 1.12:** Purpose of using internet considering order of ranking

|  |  |  |
| --- | --- | --- |
| Factor | Faculty | Total |
| Science | Arts | Law | Mgt & Finance | Medicine |
| a | 29% | 43% | 38% | 40% | 36% | 37% |
| b | 27% | 19% | 16% | 18% | 28% | 22% |
| c | 25% | 23% | 33% | 24% | 20% | 25% |
| d | 18% | 8% | 13% | 15% | 15% | 14% |
| e | 1% | 2% | 0% | 2% | 1% | 1% |
| f | 0% | 5% | 0% | 0% | 0% | 1% |
| g | 0% | 0% | 0% | 1% | 0% | 0% |
| Total | 100% | 100% | 100% | 100% | 100%101 | 100% |

**Figure 1.7:** Purpose of using internet considering order of ranking

***Frequency of using internet***

From those who have used internet, it was asked how often internet was used. Respondents were asked to select the frequency category most relevant to them, out of the given five categories namely;

a. Daily b. Several times a week c. Once a week

d. Once a month e. Rarely

**Table 1.13:** Frequency of using internet

|  |  |  |
| --- | --- | --- |
| Factor | Faculty | Total |
| Science | Arts | Law | Mgt & Finance | Medicine |
| a | 34% | 4% | 7% | 21% | 4% | 14% |
| b | 32% | 18% | 39% | 33% | 26% | 30% |
| c | 16% | 29% | 20% | 17% | 22% | 21% |
| d | 8% | 9% | 7% | 10% | 13% | 9% |
| e | 10% | 40% | 27% | 19% | 35% | 26% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% |

**Figure 1.8:** Frequency of using internet

**1.3. General Background**

***Distribution of monthly family income***

The variation of the monthly family income of the respondents by gender wise is given in the Table 1.14.

**Table 1.14:** Monthly family income versus Gender

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Male | Female | Total |
| <15,000 | 34% | 39% | 37% |
| 15,000 – 30,000 | 36% | 32% | 34% |
| 30,000 – 50,000 | 15% | 16% | 15% |
| >50,000 | 15% | 13% | 14% |
| Total | 100% | 100% | 100% |

Figure 1.9: Monthly Income versus Gender

The table below reveals the number and percentage of computer aware and computer literate respondents in each monthly family income category.

**Table 1.15:** Monthly family income distribution with computer awareness and computer literacy

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Total number in each category | Computer aware | Computer literate |
| Number | Percentage | Number | Percentage |
| <15,000 | 112 | 55 | 49% | 35 | 31% |
| 15,000-30,000 | 101 | 56 | 55% | 40 | 40% |
| 30,000-50,000 | 46 | 35 | 76% | 33 | 72% |
| >50,000 | 41 | 33 | 80% | 32 | 78% |
| Total | 300 | 179 | 60% | 140 | 47% |

1. **ADVANCED ANALYSIS**

***Chi-Square Test***

**Table 1.16:** Results of the Chi-Square Test

 **Chi-Square Tests**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
| Pearson Chi-Square | 21.817(b) | 1 | .000 |   |   |
| Continuity Correction(a) | 20.676 | 1 | .000 |   |   |
| Likelihood Ratio | 22.176 | 1 | .000 |   |   |
| Fisher's Exact Test |   |   |   | .000 | .000 |
| Linear-by-Linear Association | 21.738 | 1 | .000 |   |   |
| N of Valid Cases | 278 |   |   |   |   |

 a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 52.12.

A chi-square value 21.817 with 1 degrees of freedom ( *p* = .000 *<* 0.05 ) illustrates that the test is significant at 5% level.

***Testing the Goodness-of-Fit***

**Table 1.17:** Results of the Deviance and Pearson tests for Generalized Logit Model

|  |  |  |  |
| --- | --- | --- | --- |
| Criterion | Chi-square | Degrees of freedom | *p* value |
| Deviance | 558.4536 | 741 | 1.0000 |
| Pearson | 729.6255 | 741 | 0.6101 |

The *p* values of the two tests are greater than 0.05 indicating that the Generalized Logit Modelsatisfies the goodness-of-fit at 5% significant level.

***Parameter Estimation***

The parameter estimates of the best fitted Generalized Logit Modelare given in Table 1.18.

**Table 1.18:** Results of the parameter estimation of the Generalized Logit Model

|  |  |  |
| --- | --- | --- |
| Factor | Factor levels | Parameter estimates(Standard error)[p value] |
| $$log\left(\frac{p\_{1}}{p\_{4}}\right)$$ | $$log\left(\frac{p\_{2}}{p\_{4}}\right)$$ | $$log\left(\frac{p\_{3}}{p\_{4}}\right)$$ |
| intercept |  | 0.3553(0.3318)[0.2842] | 0.1482(0.3254)[0.6488] | -1.1730(0.5119)[0.0219] |
| uin | (1)Internet user  | 1.1199(0.2322)[<0.0001] | 0.1859(0.1923)[0.3336] | 1.1392(0.3386)[0.0008] |
| (2)Non-internet user  | - | - | - |
| inc | (1)<15,000  | -1.3585(0.3262)[<0.0001] | -0.7147(0.3473)[0.0396] | -0.7362(0.3918)[0.0602] |
| (2)15,000 – 30,000 | -0.8175(0.3363)[0.0151] | -0.1781(0.3430)[0.6035] | -0.5009(0.4183)[0.2311] |
| (3)30,000 – 50,000 | 0.5624(0.4286)[0.1895] | -0.0752(0.5043)[0.8814] | 0.0822(0.5464)[0.8804] |
| (4)<50,000 | - | - | - |
| met | (1)Computer courses followed | 0.3578(0.2839)[0.2075] | 0.1948(0.2516)[0.4388] | 0.5426(0.4368)[0.2142] |
| (2)School | -0.2170(0.4336)[0.6167] | 0.6758(0.3390)[0.0462] | -0.6477(0.7444)[0.3842] |
| (3)Self study, Family members,  Another person, Other | - | - | - |
| loc | (1)1 location used | -0.7411(0.3004)[0.0136] | -0.0666(0.3038)[0.8264] | -0.7831(0.4149)[0.0591] |
| (2)2 locations used | -0.0318(0.3057)[0.9171] | 0.2647(0.3210)[0.4096] | 0.2148(0.3808)[0.5726] |
| (3)3 locations used | 0.5539(0.3439)[0.1072] | 0.8020(0.3631)[0.0272] | 0.9503(0.4008)[0.0177] |
| (4)More than 3 locations used | - | - | - |

Model 1: $ log\left(\frac{p\_{1}}{p\_{4}}\right)=0.3553+β\_{1j}^{uin}+ β\_{1k}^{inc }+ β\_{1l}^{met} + β\_{1m}^{loc} $

Models the probability of response 1 (having both computer awareness and computer literacy) relative to the response 4 (not having both computer awareness and computer literacy)

Model 2:$ log\left(\frac{p\_{2}}{p\_{4}}\right)=0.1482+β\_{2j}^{uin}+ β\_{2k}^{inc }+ β\_{2l}^{met} + β\_{2m}^{loc} $

Models the probability of response 2 (having only computer awareness) relative to the response 4 (not having both computer awareness and computer literacy)

Model 3:$ log\left(\frac{p\_{3}}{p\_{4}}\right)=-1.1730+β\_{3j}^{uin}+ β\_{3k}^{inc }+ β\_{3l}^{met} + β\_{3m}^{loc} $

Models the probability of response 3 (having only computer literacy) relative to the response 4 (not having both computer awareness and computer literacy)