**Supplemental Materials**

Descriptions of the four approaches used to differentiate users into four distinct categories.

**Model 1: Thresholds**

Three thresholds were created to distinguish users into four groups: non-users, casual users, functional users, and sophisticated users. Each threshold distinguishes more advanced users from less advanced users. If a user fails to meet a threshold, he is classified in the less advanced group. If a user meets a threshold, they are compared against the next threshold and classified after either failing to meet a threshold or meeting the final threshold.

Non-users

Those persons that do not use the internet with the frequency or functionality to achieve the status of Casual Users

Casual User Threshold

* Differentiates users from non-users
* For each of the following questions, add 5 points for “more than 15 times in the past year,” 2 points for less than 15 times in the past year, and 0 points otherwise.
  + Q1.1 - Used a computer
  + Q1.2 – Surfed the Internet
  + Q1.3 – Sent a message by email
  + Q1.5 – Played a computer game
  + Q1.6 – Looked up information on the Internet
* Add 5 points for each Internet-enabled device used:
  + Q4.1 – Smartphone
  + Q4.2 - Laptop
  + Q4.3 - Home Computer
  + Q4.4 - Work Computer
  + Q4.5 - Tablet
  + Q4.6 - Home television
  + Q4.7 - Library Computer
* If a user has less than or equal to 5 points across all questions, classify them as a non-user.
* Total non-users: 24

Proficient Threshold

* Differentiates casual users from functional and sophisticated users
* For each of the following questions, add 5 points for “more than 15 times in the past year,” 2 points for less than 15 times in the past year, and 0 points otherwise.
  + Q1.4 – Read the news on the Internet
  + Q1.7 – Searched for a job on the Internet
  + Q1.8 – Made a purchase on the Internet
  + Q1.9 – Used social media
  + Q1.12 – Conducted banking or financial transactions on the Internet
  + Q1.13 – Applied for a job on the Internet
* If a user has less than or equal to 10 points across all questions, classify them as a casual user.
* Total casual users: 65

System Designer Threshold

* Differentiates functional users from sophisticated users.
* For each of the following questions, add 5 points for “within the last month,” 2 points for “within the last year,” and 0 points otherwise.
  + Q2.2 – Connected a new component to a computer
  + Q2.3 – Repaired or retrofitted a computer
  + Q2.4 – Installed software on a computer
  + Q2.5 – Updated software on a computer
  + Q2.7 – Wrote or coded new software
  + Q3.1 – Created a webpage
  + Q3.2 – Created a web-based application
* If a user has greater than or equal to 15 points across all questions, classify them as a sophisticated user. Otherwise, classify them as a functional user.
* Total Proficient users: 164
* Total System Designers as users: 45

**Method 2: Points (unweighted)**

This approach uses a points system to find out who is an System Designers, Proficient, Casual, or Non-user.

Unweighted

2 points for completing any activity more than 15 times

1 point for completing any activity three or more or twice in a year

0 for not in the past year or never in my life

Minimum:0

Maximum:58

UNWEIGHTED Points and catagorization:

* 1. Score less than 10 are considered non-users
  2. Casual users scored from 11-25
  3. Proficient users scored from 26- 45
  4. Scores greater than 46 are considered Systems Designers

Distribution:

Non-Users - 60

Casual Users - 68

Proficient Users - 154

System Designers - 22

Casual Activities: Activities that an average user performs. These activities involve usage of widely available technology.

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| --- | --- |
| Q1\_1 | Please share your experience with computers and the Internet by addressing the following statements. - Used a computer |
| Q1\_2 | Please share your experience with computers and the Internet by addressing the following statements. - Surfed the Internet |
| Q1\_3 | Please share your experience with computers and the Internet by addressing the following statements. - Sent a message by electronic mail (e-mail) |
| Q1\_4 | Please share your experience with computers and the Internet by addressing the following statements. - Read news on the Internet |
| Q1\_5 | Please share your experience with computers and the Internet by addressing the following statements. - Played a computer game |
| Q1\_6 | Please share your experience with computers and the Internet by addressing the following statements. - Looked up information on the Internet |
| Q1\_12 | Please share your experience with computers and the Internet by addressing the following statements. - Searched for a job on the Internet. |
| Q1\_8 | Please share your experience with computers and the Internet by addressing the following statements. - Played a computer game on the Internet |
| Q1\_11 | Please share your experience with computers and the Internet by addressing the following statements. - Applied for a job on the Internet. |
| Q1\_14 | Please share your experience with computers and the Internet by addressing the following statements. - Looked up directions to a new location on the Internet. |
| Q3\_7 | Please share your computer skills by addressing the following statements. - Backed up files to protect against data loss |
| Q2\_4 | Please share your experience with computers and the Internet by addressing the following statements. - Installed software on a computer |
| Q3\_3 | Please share your computer skills by addressing the following statements. - Installed software to protect a computer from viruses and malware |
| Q3\_4 | Please share your computer skills by addressing the following statements. - Updated software to protect it from security threats. |
| Q11\_1 | Please indicate if you used social media in the past year. - Read someone's personal web-page |
| Q11\_4 | Please indicate if you used social media in the past year. - Used instant messaging to chat online |

Proficient Activities: Activities that more advanced perform. These activities involve technology that has emerged rather recently and adds any sort of value to society or users of technology.

|  |  |
| --- | --- |
| Q1\_13 | Please share your experience with computers and the Internet by addressing the following statements. - Made a purchase on the Internet. |
| Q1\_7 | Please share your experience with computers and the Internet by addressing the following statements. - Used social media |
| Q1\_9 | Please share your experience with computers and the Internet by addressing the following statements. - Used virtual reality or augmented reality on the Internet |
| Q1\_10 | Please share your experience with computers and the Internet by addressing the following statements. - Conducted banking or financial transactions on the Internet. |
| Q2\_5 | Please share your experience with computers and the Internet by addressing the following statements. - Updated software on a computer |
| Q2\_2 | Please share your experience with computers and the Internet by addressing the following statements. - Connected new component to a computer, for example plugged in a web-based camera |
| Q11\_2 | Please indicate if you used social media in the past year. - Made an entry on a personal web-page |
| Q11\_3 | Please indicate if you used social media in the past year. - Participated in an online discussion group |

Advanced Activities: Top of the value chain activities. These activities involve the usage, creation, and troubleshooting of the latest technology. Activities here help to advance or affect change on the internet or within a computer’s operation, which will have secondary network effects.

|  |  |
| --- | --- |
| Q2\_3 | Please share your experience with computers and the Internet by addressing the following statements. - Repaired or retrofitted a computer, for example installed a memory card |
| Q2\_6 | Please share your experience with computers and the Internet by addressing the following statements. - Addressed software errors, for example troubleshooting error |
| Q2\_7 | Please share your experience with computers and the Internet by addressing the following statements. - Wrote or coded new software |
| Q3\_1 | Please share your computer skills by addressing the following statements. - Created a webpage |
| Q3\_2 | Please share your computer skills by addressing the following statements. - Created a web-based application |

**Model 3: Points System with Weights:**

Using the points system and questions listed above, the following weights were applied to those questions.

2 points for completing casual activity more than 15 times

1 point for completing casual activity three or more or twice in a year

0 for not in the past year or never in my life.

3 points for completing proficient activity more than 15 times

1.5 point for completing functional activity three or more or twice in a year

0 for not in the past year or never in my life

4 points for completing advanced activity more than 15 times

2 points for completing advanced activity three or more or twice in a year

0 for not in the past year or never in my life.

-2 points for asking for help on casual activity more than 15 times

-1 points for asking for help on casual activity three or more or twice in a year

0 for never in my life.

Minimum score possible: 0

Highest score possible 76

WEIGHTED:

* 1. Score less than 10 are considered non-users
  2. Scores greater than 66 are considered advanced users
  3. Scores from 11- 35 are considered casual users

Scores from 36-70 are 65 are considered functional users