**Online supplement to**

**“On the Use of Probit Based Models for Ranking Data Analysis”**

Gopindra S. Nair, Chandra R. Bhat, Ram M. Pendyala, Becky P.Y. Loo, William H.K. Lam

**TABLE A.1 Parameters estimated using ROL, ROP, HROL and HROP models on the gaming console dataset**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model** | **ROL** | **ROP** | **HROL** | **HROP** |
| Alternative specific constants (Base: PC) | | | | |
| PlayStation | 0.9381 (0.26) | 0.8938 (0.32) | 0.9306 (0.33) | 0.8314 (0.33) |
| PlayStation Portable | 0.8018 (0.27) | 0.6032 (0.33) | 0.6498 (0.38) | 0.5343 (0.36) |
| Gamecube | 0.0460 (0.29) | -0.0017 (0.34) | 0.0266 (0.44) | 0.0431 (0.36) |
| Gameboy | 0.0922 (0.27) | -0.2286 (0.33) | -0.4758 (0.54) | -0.3037 (0.4) |
| X-box | 1.3965 (0.28) | 1.3283 (0.33) | 1.4297 (0.35) | 1.2642 (0.35) |
| Hours spent playing (Base: PC) | | | | |
| PlayStation | -0.1296 (0.04) | -0.1221 (0.05) | -0.1127 (0.05) | -0.1133 (0.05) |
| PlayStation Portable | -0.2342 (0.05) | -0.2166 (0.05) | -0.2661 (0.08) | -0.2140 (0.06) |
| Gamecube | -0.1865 (0.05) | -0.1952 (0.06) | -0.2865 (0.09) | -0.2156 (0.07) |
| Gameboy | -0.235 (0.05) | -0.2205 (0.06) | -0.3451 (0.11) | -0.2428 (0.07) |
| X-box | -0.1729 (0.04) | -0.1595 (0.05) | -0.1524 (0.05) | -0.1526 (0.05) |
| Platform ownership | 0.9639 (0.19) | 1.2409 (0.22) | 1.4423 (0.30) | 1.2310 (0.29) |
| Log scaling parameter | | | | |
| Rank level 1 (Fixed) | -- | -- | 0.0000 | 0.0000 |
| Rank level 2 | -- | -- | -0.4495 (0.26) | -0.0958 (0.24) |
| Rank level 3 | -- | -- | -0.4093 (0.26) | 0.1478 (0.24) |
| Rank level 4 | -- | -- | -1.1033 (0.52) | -0.2852 (0.50) |
| Rank level 5 | -- | -- | -1.4055 (0.80) | -0.3928 (0.71) |

(This table is to be read along with section 6.1 of the original paper. The values in parenthesis indicate standard errors.)

**TABLE A.2 Parameters estimated using ROL, ROP, HROL and HROP models on the LPG bus utility dataset**

(This table is to be read along with section 6.2 of the original paper. The values in parenthesis indicate standard errors.)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model** | **ROL** | **ROP** | **HROL** | **HROP** |
| Fuel type is LPG | -3.3495 (0.38) | -4.2307 (0.43) | -5.8498 (0.62) | -5.1101 (0.54) |
| Fuel price (in HK$) | -0.9972 (0.08) | -1.1716 (0.09) | -1.4173 (0.13) | -1.3078 (0.11) |
| Vehicle price (in 100,000 HK$) | -1.1344 (0.39) | -1.048 (0.45) | -0.9478  (0.60) | -0.8964 (0.53) |
| Refueling distance (km) | -0.2431 (0.03) | -0.2793 (0.04) | -0.2591 (0.05) | -0.2788 (0.04) |
| Vehicle range (in 100 km) | 0.3399 (0.06) | 0.3932 (0.07) | 0.3348 (0.08) | 0.3779 (0.07) |
| Vehicle life (years) | 0.2736 (0.04) | 0.3307 (0.05) | 0.3446 (0.06) | 0.3496 (0.05) |
| Number of seats | 0.5399 (0.04) | 0.6121 (0.05) | 0.7663 (0.06) | 0.6784 (0.05) |
| Horse Power (kW@3600 rpm) | 0.0222 (0.00) | 0.026 (0.00) | 0.0237 (0.01) | 0.0258 (0.01) |
| Log scaling parameter |  |  |  |  |
| Rank level 1 (fixed) | -- | -- | 0.0000 | 0.0000 |
| Rank level 2 | -- | -- | -0.7306 (0.11) | -0.2205 (0.10) |
| Rank level 3 | -- | -- | -1.6911 (0.29) | -0.8365 (0.24) |