# Web Appendices

## Web Appendix A: Overview selected categories and number of selected brands per category

Beer (pilsner, lager)b,g: 7 (6)

Bleachd: 6

Body Creams and Skin Care (body milk, lotion, oil)e,g: 10 (9)

Breakfast Cereals (oatmeal)c,g: 8 (3)

Butterc: 7

Candy Bars (chocolate candy bars)c,g: 4 (2)

Chewing Gum/Bubble Gum/Throat Dropsc,g: 8 (2)

Chocolatesc,g: 11 (3)

Concentrated Fruit Squash (concentrated fruit juices)b,g: 9 (1)

Cooking Fats and Oils – Liquidc,g: 8 (3)

Dentifrice and Toothpastee,g: 11 (3)

Dry Cat Foodf: 9

Dry Dog Foodf,g: 12 (2)

Fabric Conditionersd,g: 5 (2)

Facial Cleaning Productse,g: 9 (3)

Facial Tissuese: 10

Flavored Carbonates (CSD’s)b,g: 7 (7)

Hair Coloring Products (hair dye, color rinse)e: 11

Hair Conditioning Productse,g: 12 (3)

Hairsprayse,g: 6 (2)

Household Cleaners (liquids to clean the house)d,g: 9

Household Cleaning (utensils to clean the house)d,g: 7 (3)

Ice Creamc,g: 7 (3)

Infant Milk Powdera,g: 11 (6)

Instant Coffeeb,g: 8 (3)

Instant Drinking Chocolateb: 7

Instant Noodlesc,g: 7 (3)

Ketchupsc: 4

Kitchen Papersd,g: 4 (2)

Laundry Soap (bars to clean clothes)d,g: 8 (3)

Lavatory Cleaners (liquid to clean the toilet)d,g: 8 (3)

Lemonades (non-carbonated soft drinks)b,g: 5 (3)

Liquid Soape: 5

Milkb,g: 8 (5)

Diapersa,g: 9 (8)

Paper Towelsd: 5

Potato Chipsc,g: 9 (9)

Processed Cheese (cream cheese)c: 5

Razor Bladese,g: 2 (2)

Ricec,g: 8 (3)

Salad Dressingsf: 2

Sanitary Protection – Padse,g: 11 (3)

Sanitary Protection – Tamponse: 1

Shampooe,g: 12 (12)

Shower and Bath Additives (shower gel, bath foam)e,g: 10 (3)

Soup and Bouillons – Wet (wet hot pot)c: 7

Soy Milkb,g: 5 (1)

Soy Saucesc,g: 10 (3)

Still Mineral Waterb,g: 10 (3)

Sweet Biscuits (cookies)c,g: 4

Tea (dry tea)b,g: 7 (3)

Toilet Soap (soap bars)e,g: 9 (2)

Toilet Tissuese,g: 7 (1)

Toothbrushese,g: 11 (3)

Laundry Detergent (powder detergent)d,g: 8 (3)

Washing Up Liquids (hand dishwashing detergent)d,g: 5 (1)

Wet Cat Foodf,g: 4 (1)

Wet Dog Foodf: 4

Window Cleanersd: 5

Yoghurtc,g: 10 (8)

a-f Category types: a baby care; b beverages; c food; d household care; e personal care; f pet food.

g Category was part of the consumer survey (number of survey brands between brackets)

## Web Appendix B: Correlations among drivers

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| PANEL A: CORRELATIONS BOI AND ITS DRIVERS (NUMBER OF OBSERVATIONSa) |
|  | ln(BOIbt) | trb | fub | fbb | labt | ppbt | ln(rpbt) | ln(adbt) | avonbt | avoffbt |
| ln(BOIbt)b | 1.00(1,746) |  |  |  |  |  |  |  |  |  |
| trb | .14(611) | 1.00(611) |  |  |  |  |  |  |  |  |
| fub | .08(611) | .85(611) | 1.00(611) |  |  |  |  |  |  |  |
| fbb | .25(1,746) | .20(611) | .23(611) | 1.00(1,746) |  |  |  |  |  |  |
| labt | .15(1,746) | .04(611) | .01(611) | .01(1,746) | 1.00(1,746) |  |  |  |  |  |
| ppbt | .27(1,746) | .03(611) | .04(611) | .13(1,746) | .07(1,746) | 1.00(1,746) |  |  |  |  |
| ln(rpbt) | -.16(1,746) | -.05(611) | -.09(611) | -.07(1,746) | .06(1,746) | -.06(1,746) | 1.00(1,746) |  |  |  |
| ln(adbt)c | -.06(1,746) | -.10(611) | -.08(611) | .15(1,746) | -.07(1,746) | .06(1,746) | .12(1,746) | 1.00(1,746) |  |  |
| avonbt | .32(1,746) | -.04(611) | -.08(611) | .22(1,746) | .01(1,746) | .12(1,746) | .05(1,746) | .30(1,746) | 1.00(1,746) |  |
| avoffbt | .0003(1,746) | -.09(611) | -.05(611) | .16(1,746) | -.12(1,746) | .06(1,746) | .07(1,746) | .34(1,746) | -.50(1,746) | 1.00(1,746) |

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| PANEL B: CORRELATIONS COI AND ITS DRIVERS (NUMBER OF OBSERVATIONSa) |
|  | ln(COIct) | rrc | asct | buc | hec | pec | lec | frc | ln(cxc) | ln(adct) |
| ln(COIct)b | 1.00(240) |  |  |  |  |  |  |  |  |  |
| rrc | .41(180) | 1.00(180) |  |  |  |  |  |  |  |  |
| asct | -.10(240) | -.16(180) | 1.00(240) |  |  |  |  |  |  |  |
| buc | .02(240) | -.05(180) | .23(240) | 1.00(240) |  |  |  |  |  |  |
| hec | -.13(240) | -.15(180) | .21(240) | .60(240) | 1.00(240) |  |  |  |  |  |
| pec | -.12(240) | .07(180) | -.19(240) | -.18(240) | -.07(240) | 1.00(240) |  |  |  |  |
| lec | -.49(240) | -.38(180) | .47(240) | .08(240) | .35(240) | .09(240) | 1.00(240) |  |  |  |
| frc | -.33(240) | -.14(180) | .38(240) | .06(240) | .18(240) | .26(240) | .43(240) | 1.00(240) |  |  |
| ln(cxc) | .59(240) | .28(180) | .25(240) | .26(240) | .28(240) | -.09(240) | -.03(240) | .00(240) | 1.00(240) |  |
| ln(adct)c | -.19(240) | .01(180) | .35(240) | .13(240) | .12(240) | -.04(240) | .23(240) | .35(240) | .02(240) | 1.00(240) |

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| PANEL C: CORRELATIONS ONLINE PRESENCE AND ITS DRIVERS (NUMBER OF OBSERVATIONS: 2,395d) |
|  | pronbt | fbb | labt-1 | ppbt-1 | ln(adbt-1) | avoffbt-1 | asct-1 | buc | hec | pec | lec | frc | ln(cxc) | rbb | ln(roct-1) | ln(pob) |
| pronbt | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| fbb | .16 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| labt-1 | -.11 | -.004 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ppbt-1 | .12 | .15 | -.01 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |
| ln(adbt-1)c | .23 | .16 | -.13 | .07 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |
| avoffbt-1 | .40 | .21 | -.19 | .10 | .44 | 1.00 |  |  |  |  |  |  |  |  |  |  |
| asct-1 | .22 | -.03 | .04 | .01 | .38 | .37 | 1.00 |  |  |  |  |  |  |  |  |  |
| buc | .09 | -.10 | .09 | -.004 | .09 | .08 | .20 | 1.00 |  |  |  |  |  |  |  |  |
| hec | .09 | -.14 | .04 | -.05 | .03 | -.01 | .18 | .60 | 1.00 |  |  |  |  |  |  |  |
| pec | -.03 | -.01 | -.07 | -.04 | -.02 | -.21 | -.20 | -.17 | -.06 | 1.00 |  |  |  |  |  |  |
| lec | .03 | -.24 | -.01 | .01 | .22 | .13 | .47 | .10 | .34 | .05 | 1.00 |  |  |  |  |  |
| frc | .24 | -.12 | -.11 | .03 | .30 | .23 | .40 | .08 | .18 | .24 | .41 | 1.00 |  |  |  |  |
| ln(cxc) | .17 | .17 | .17 | -.001 | .13 | .05 | .23 | .29 | .29 | -.07 | -.05 | .0005 | 1.00 |  |  |  |
| rbbe | -.32 | -.23 | .11 | -.14 | -.19 | -.76 | -.15 | -.05 | .03 | .17 | .12 | -.03 | -.19 | 1.00 |  |  |
| ln(roct-1) | .04 | -.13 | -.19 | .02 | .05 | .05 | -.16 | -.19 | -.05 | .33 | .27 | .58 | -.52 | .16 | 1.00 |  |
| ln(pob) | .18 | .33 | -.11 | .12 | .14 | .34 | .07 | -.05 | -.07 | -.20 | -.08 | -.02 | .07 | -.25 | -.08 | 1.00 |

a For brand-year (category-year) combinations, the number of observations equal to 1,746 (240) represents all 448 brands (60 categories) used in our main analyses; the number of observations equal to 611 (180) represents the 154 (45) survey brands (categories).

b Some brands were not sold online in certain years, so yearly BOI equals zero in these cases. Therefore, ln(BOI) represents the natural logarithm of [BOI\*100+1]. For reasons of consistency, the same is done with yearly COI.

c Log Adstock represents the log-transform of Adstock (for the brands and categories used in the main analysis, the log of 1.00E-11 is taken for the 668 out of 1,746 brand-year combinations and the 14 out of 240 category-year combinations in our sample with Adstock equal to zero; for the selection model, the log of 1.00E-11 is taken for the 1,160 out of 2,395 brand-year combinations in our sample with Adstock equal to zero).

d The number of observations equal to 2,395 represents brand-year combinations of 617 brands in 62 categories used in our selection model.

e Note that regional brands not necessarily need to be produced by a domestic manufacturer. Sedrin for example, is a beer brand that is mainly sold in the south of China, and is owned by AB InBev (that acquired the brand of Fujian Sedrin Brewery in 2006).