Multivariate statistics: Assignment 1

Team 27: **Raïsa Carmen** *s0204278* **Marco Chi Chung Fong** *stnumber*
Wenting Jiang *s0204278* **Chin Wei Ma** *r0877202*

1 Task 1

1.1 CFA to construct a measurement model for the Attitude items

There are 0 attitude items that are scored on a five-point Likert scale.

We first conduct a simple confirmatory factor analysis, assuming each item only has a loading on the concept it aims to measure (organic, packaging, and cruelty free). We will assume the the three latent variables are correlated. Table 1 shows several performance measures for the model. Figure 1 shows a graphical representation of the model, including all correlations and variances.

Table 1: Performance of the simple model for the attitudes

Performance measure	Value
user model Chisq. (df, p-value)	122.63 (25, 0.00)
baseline model Chisq. (df, p-value)	906.01 (36, 0.00)
comparative fit index (CFI)	0.888
Tucker-Lewis index (TLI)	0.838
Loglik user model (H0)	-1519.366
Loglik unrestricted model(H1)	-1458.049
Akaike (AIC)	3078.732
Bayesian (BIC)	3138.945
RMSEA (ll,ul) (pvalue)	0.16 (0.13, 0.19) (0.00)
Standardized root mean square residual	0.085

1.2 CFA to construct a measurement model for the Behavior-Intention items

There are 9 behavior-intention items that are scored on a five-point Likert scale.

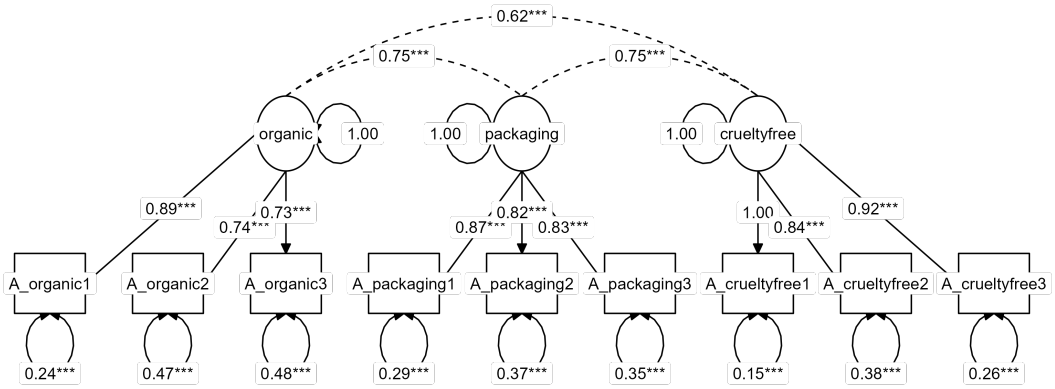

Figure 1: A graphical representation of the simple model for the attitudes.

1.3 Structural equation model to evaluate the impact of attitude on behavior intention

2 Task 2

2.1 Canonical correlation analysis

2.2 Split-half approach