

4.5. Perceived Usefulness, Perceived Ease of Use, Trust, and

Subjective Norm

There are four independent variables, including perceived usefulness, perceived ease of use, subjective norm, and trust, and one dependent variable, namely continuance intention, in the research model (Figure 2.1). These variables were measured using multiple-item scales. Descriptive statistics were computed to examine central tendency, dispersion, and normality of the items of the multiple-item scales. Central tendency is measured using means; dispersion (or variability) is measured using range (maximum minus minimum), and standard deviation; normality is measured using skewness and kurtosis.

Table 4.17 are descriptive statistics of the items measuring perceived usefulness.

Table 4.18 are descriptive statistics of the items measuring perceived ease of use.

Table 4.19 are descriptive statistics of the items measuring subjective norm. Table

4.20 are descriptive statistics of the items measuring trust. Table 4.21 are descriptive

statistics of the items measuring continuance intention. All values of skewness are

very close to zero and all values of kurtosis are lower than 3. It is suggested that data

of twenty items associated with five multiple-item scales measuring are normally

distribution, with a bell shape. In addition, twenty items of the multiple-item scales

have acceptable dispersion and means are in acceptable range (Figure 4.11 – Figure

4.15).

Table 4.17: Minimum, maximum, mean, standard deviation, skewness and kurtosis of perceived usefulness items

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
PU1	156	1	5	3.69	1.07	-0.782	-0.066
PU2	156	1	5	3.63	1.09	-0.593	-0.366
PU3	156	1	5	3.54	1.024	-0.815	0.191
PU4	156	1	5	3.71	1.035	-0.67	-0.183
PU5	156	1	5	3.62	1.104	-0.588	-0.465

Table 4.18: Minimum, maximum, mean, standard deviation, skewness and kurtosis of perceived ease of use items

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
PE1	156	1	5	3.59	1.191	-0.739	-0.354
PE2	156	1	5	3.57	1.197	-0.466	-0.809
PE3	156	1	5	3.6	1.117	-0.441	-0.817
PE4	156	1	5	3.58	1.083	-0.588	-0.526

Table 4.19: Minimum, maximum, mean, standard deviation, skewness and kurtosis of subjective norm items

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
SN1	156	1	5	3.4	0.848	-0.369	0.453
SN2	156	1	5	3.51	0.94	-0.326	-0.245
SN3	156	1	5	3.54	1.018	-0.495	-0.131

Table 4.20: Minimum, maximum, mean, standard deviation, skewness and kurtosis of trust items

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Tr1	156	1	5	3.76	1.048	-0.737	0.132
Tr2	156	1	5	3.66	1.038	-0.892	0.568
Tr3	156	1	5	3.58	1.28	-0.599	-0.652
Tr4	156	1	5	3.72	1.038	-0.861	0.194

Table 4.21: Minimum, maximum, mean, standard deviation, skewness and kurtosis of continuance intention items

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
CI1	156	1	5	3.58	1.13	-0.753	-0.291
CI2	156	1	5	3.63	1.235	-0.57	-0.792
CI4	156	1	5	3.7	1.086	-0.569	-0.178

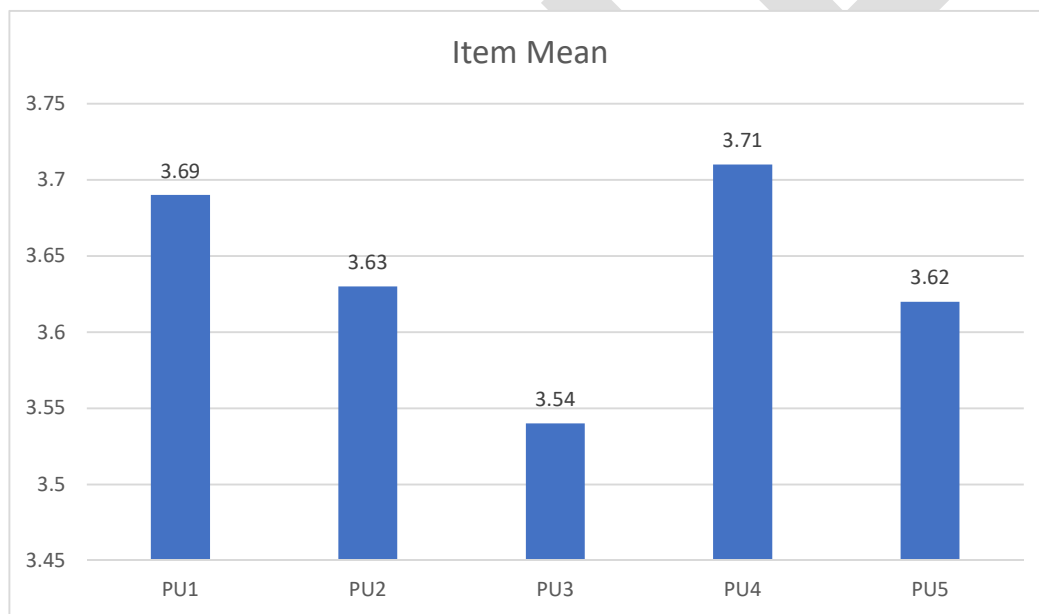


Figure 4.11: Item means of the scale of perceived usefulness

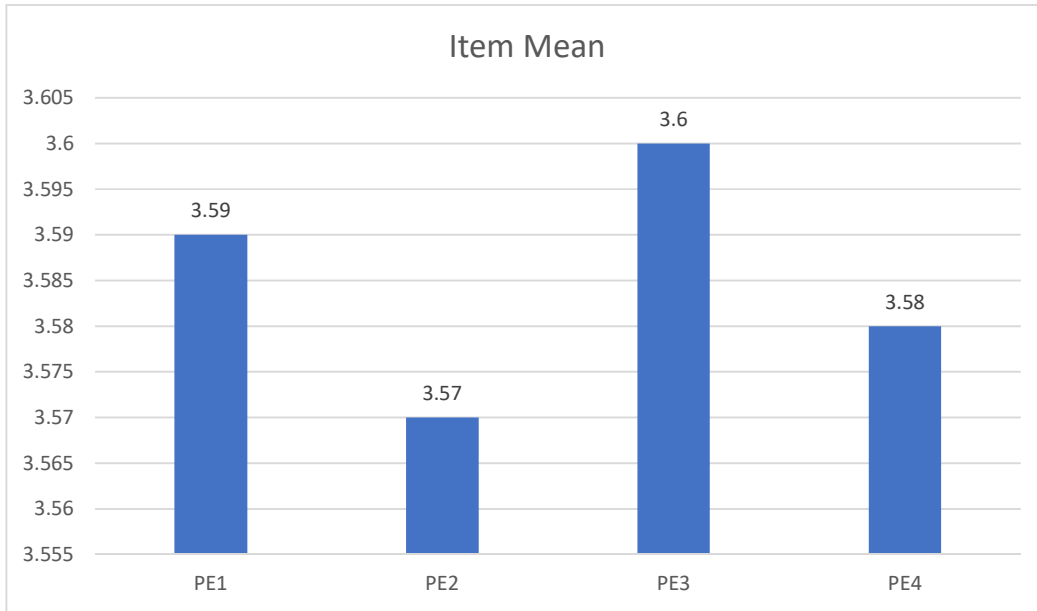


Figure 4.12: Item means of the scale of perceived ease of use

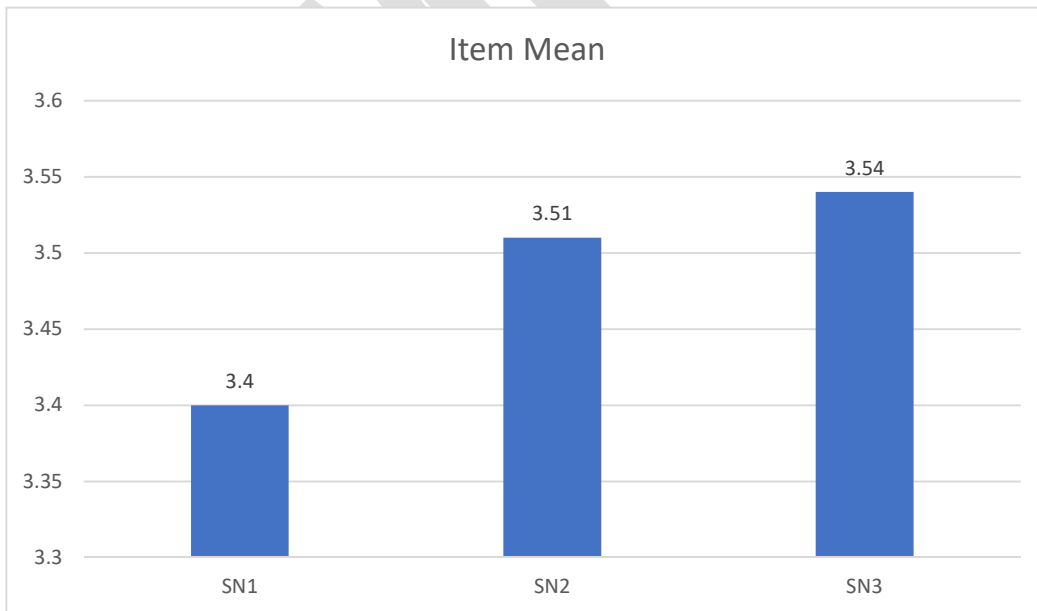


Figure 4.13: Item means of the scale of subjective norm

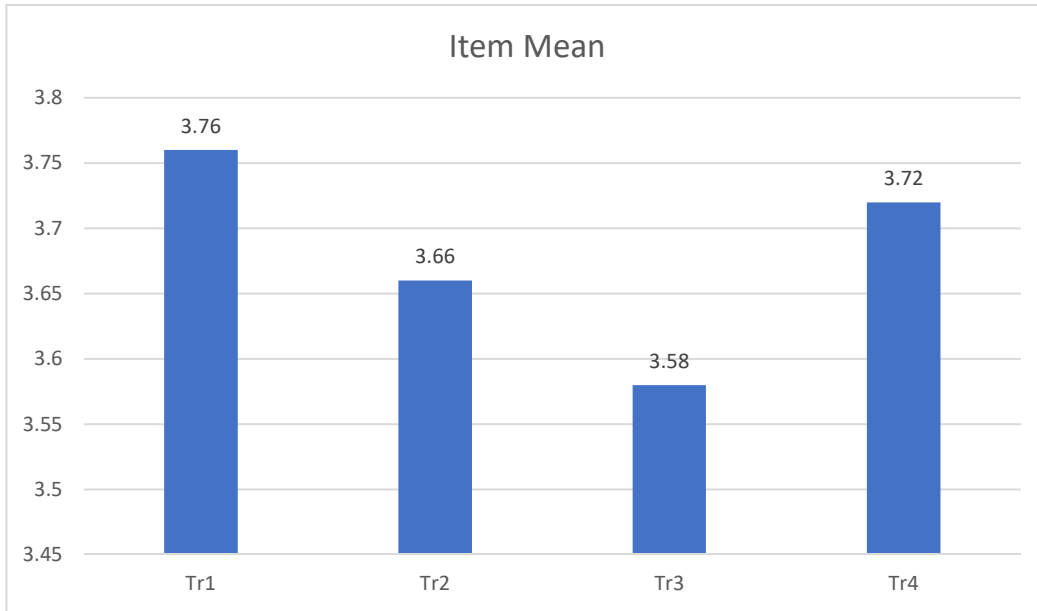


Figure 4.14: Item means of the scale of trust

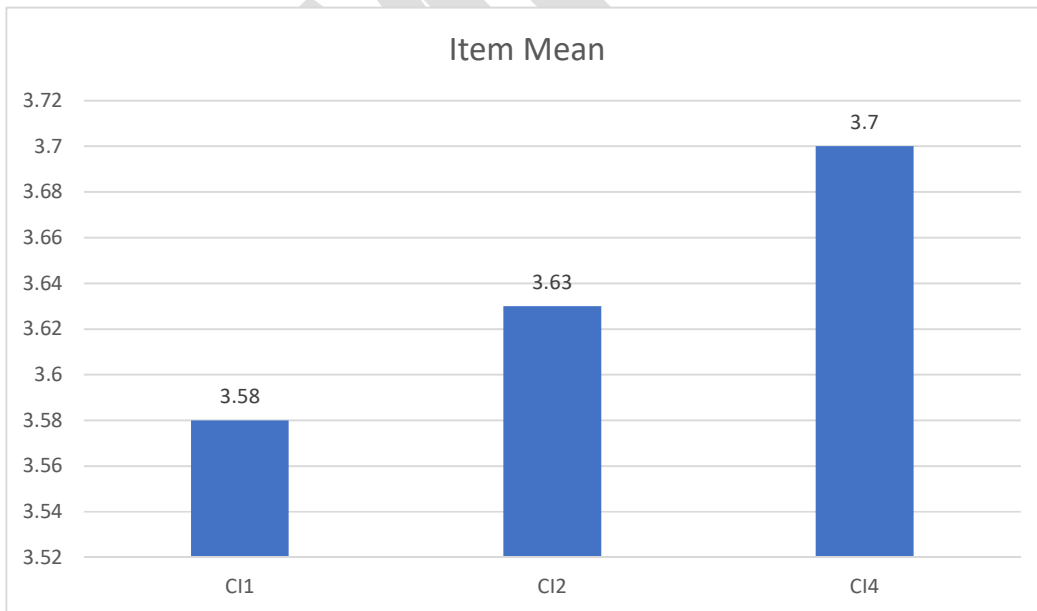


Figure 4.15: Item means of the scale of continuance intention

After the normality of twenty items were checked, scale statistics were performed. Firstly, an indicator for representing the measure of perceived usefulness was computed by averaging mean values of five items in the associated multiple-item scale. Using the same procedures, indicators for representing perceived ease of use, subjective norm, trust and continuance intention were also calculated. Descriptive statistics of perceived usefulness, perceived ease of use, subjective norm, trust, and continuance intention were performed and shown in the following table (Table 4.22). Based on the statistics shown in Table 4.22, it is concluded that the measures of perceived, perceived ease of use, subjective norm, trust, and continuance intention were normally distributed. Means of these scales are in the reasonable range (Figure 4.16).

Table 4.22: Minimum, maximum, mean, standard deviation, skewness and kurtosis of perceived usefulness, perceived ease of use, subjective norm, trust and continuance intention

	N	Min.	Max.	Mean	Std. Dev.	Skewness	Kurtosis
Perceived Usefulness	156	1.25	5	3.644	0.922	-0.805	-0.439
Perceived Ease of Use	156	1	5	3.585	1.054	-0.716	-0.550
Subjective Norm	156	1.33	5	3.483	0.839	-0.651	-0.053
Trust	156	1	5	3.683	1.013	-0.964	0.212
Continuance Intention	156	1.25	5	3.543	0.961	-0.717	-0.261

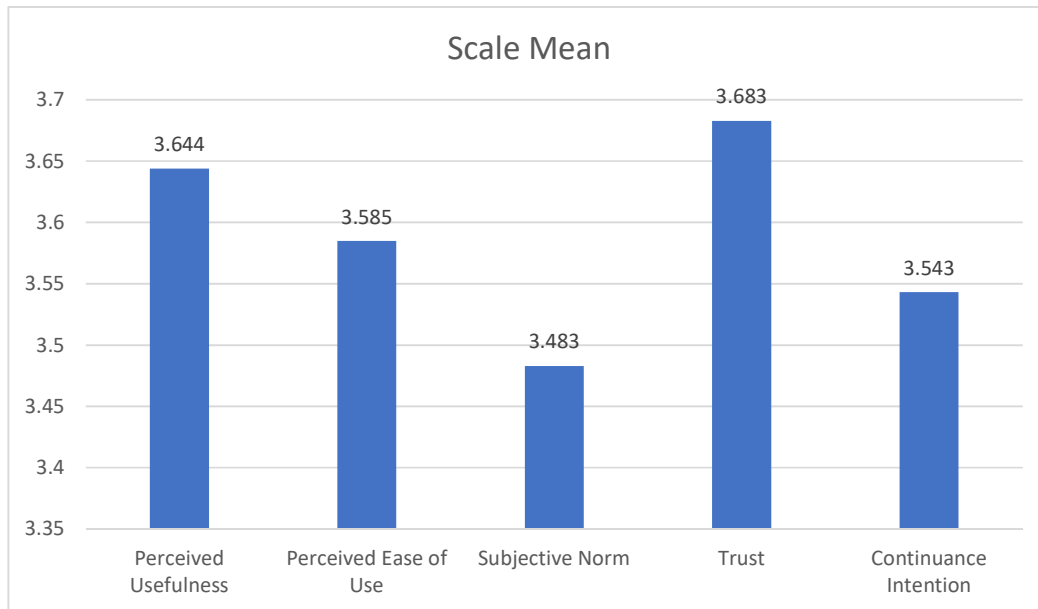


Figure 4.16: Means of perceived usefulness, perceived ease of use, subjective norm, trust and continuance intention

There are 81 male respondents and 75 female respondents. Independent-samples t-test analysis was performed to compare whether there is any significant difference in perceived usefulness, perceived ease of use, subjective norm, trust and continuance intention between these two groups of respondents. With reference to Table 4.23, scale means of perceived usefulness are 3.58 and 3.713 for male and female respondents. There is no significant difference found by independent-samples t-test at the significance level of 0.05 ($t = -0.9$, $p = 0.370$). Scale means of perceived ease of use are 3.515 and 3.660 for male and female respondents. They are not significantly different at the 0.05 level ($t = -0.856$, $p = 0.394$). Scale means of subjective norm are 3.461 and 3.507 for male and female respondents. They are not significantly different at the 0.05 level ($t = -0.336$, $p = 0.737$). Scale means of trust are 3.642 and 3.727 for male and female respondents. They are not significantly different at the 0.05 level ($t =$

-0.52, $p = 0.604$). Scale means of continuance intention are 3.491 and 3.6 for male and female respondents. They are not significantly different at the 0.05 level ($t = -0.709$, $p = 0.480$). In conclusion, there are not significant differences in perceived usefulness, perceived ease of use, subjective norm, trust and continuance intention between male respondents and female respondents. Figure 4.17 illustrates that the scale means of perceived usefulness, perceived ease of use, subjective norm, trust and continuance intention are very close in values. No matter male or female consumers, they have similar views on the factors of using cloud storage services, including perceived usefulness, perceived ease of use, subjective norm and trust, as well as their intentions to use them. Hence, it is inferred that gender does not have significant impact on consumers' intention to continually use cloud storage services.

Table 4.23: Comparing scale means between male and female respondents using t-test

	SEX	N	Mean	Std. Deviation	t-value	Sig. (2-tailed)
Perceived Usefulness	Male	81	3.580	0.888	-0.900	0.370
	Female	75	3.713	0.959		
Perceived Ease of Use	Male	81	3.515	1.032	-0.856	0.394
	Female	75	3.660	1.079		
Subjective Norm	Male	81	3.461	0.731	-0.336	0.737
	Female	75	3.507	0.947		
Trust	Male	81	3.642	1.024	-0.520	0.604
	Female	75	3.727	1.007		
Continuance Intention	Male	81	3.491	0.902	-0.709	0.480
	Female	75	3.600	1.023		

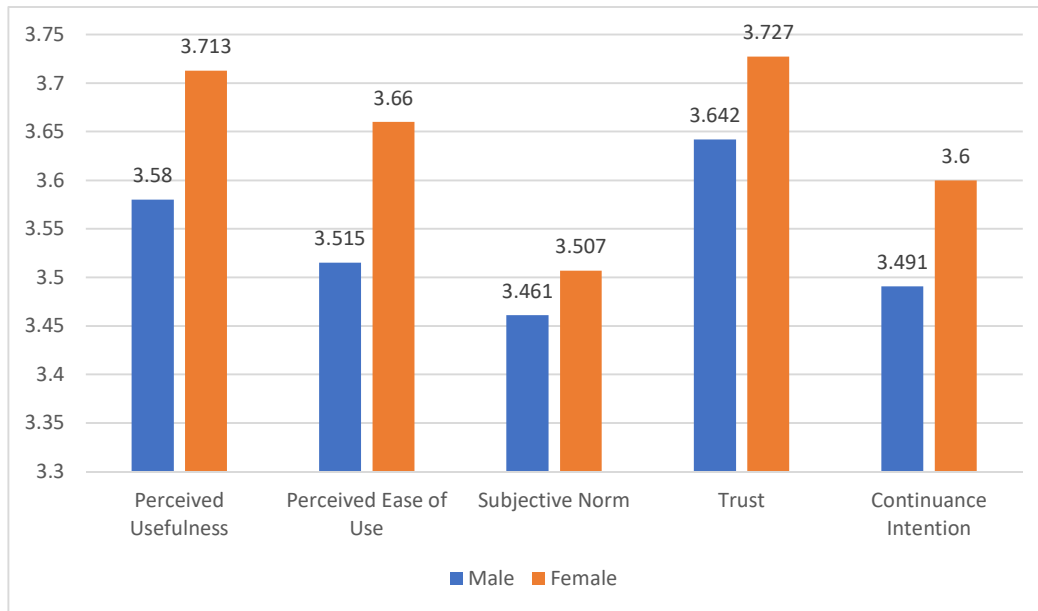


Figure 4.17: Scale means of perceived usefulness, perceived ease of use, subjective norm, trust, and continuance intention for male and female respondents

In this study, 156 respondents were categorized into four groups according to their ages: 16 – 25 years; 26 – 35 years; 36 – 45 years; and 46 years or above. One-way ANOVA (Analysis of Variance) was applied to compare whether there are significant mean differences in perceived usefulness, perceived ease of use, subjective norm, trust, and continuance intention among four age groups. With reference to Table 4.24, there are significant differences in perceived usefulness ($F = 9.247, p < 0.001$), perceived ease of use ($F = 12.912, p < 0.001$), subjective norm ($F = 6.45, p < 0.001$), trust ($F = 7.583, p < 0.001$), and continuance intention ($F = 12.601, p < 0.001$) at the 0.001 level. It is noticed that younger respondents have better perceptions in the usefulness, ease of use, subjective norm and trust in cloud storage. For example, scale means of perceived usefulness are 4.214, 3.406, 3.696 and 3.059. Respondents who are between 16 and 25 years perceive cloud storage being very useful, with a mean of

4.214, while respondents who are of ages 46 years or above perceive least useful, with a mean of 3.059. Inevitably, younger respondents have higher intention to use cloud storage services, with means of 4.114, 3.373, 3.642, and 2.603. It is inferred that age could have significant impact on continuance intention in the context of cloud storage services.

Table 4.24: Comparing scale means among four groups of respondents with different ages by using ANOVA

	Age	N	Mean	Std. Deviation	F value	Sig.
Perceived Usefulness	16 - 25 years	35	4.214	0.298	9.247	0
	26 - 35 years	53	3.406	0.981		
	36 - 45 years	51	3.696	0.831		
	46 years or above	17	3.059	1.223		
Perceived Ease of Use	16 - 25 years	35	4.286	0.429		
	26 - 35 years	53	3.363	1.189		
	36 - 45 years	51	3.647	0.837		
	46 years or above	17	2.647	1.179		
Subjective Norm	16 - 25 years	35	3.791	0.505	6.45	0
	26 - 35 years	53	3.264	0.959		
	36 - 45 years	51	3.673	0.735		
	46 years or above	17	2.961	0.912		
Trust	16 - 25 years	35	4.250	0.493	7.583	0
	26 - 35 years	53	3.533	1.103		
	36 - 45 years	51	3.681	0.847		
	46 years or above	17	2.985	1.393		
Continuance Intention	16 - 25 years	35	4.114	0.413	12.601	0
	26 - 35 years	53	3.373	1.017		
	36 - 45 years	51	3.642	0.791		
	46 years or above	17	2.603	1.215		

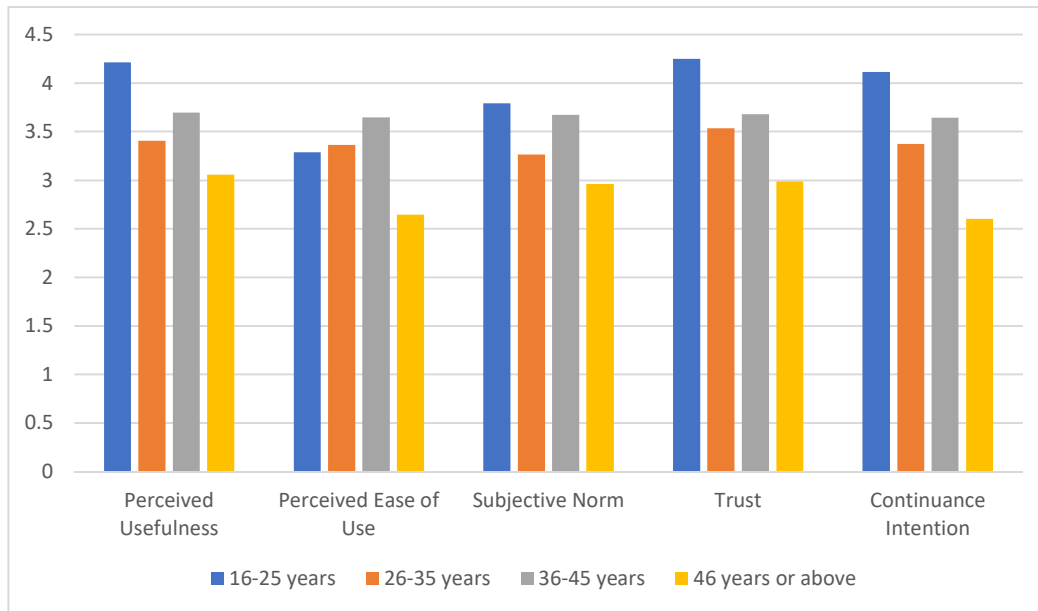


Figure 4.18: Scale means of perceived usefulness, perceived ease of use, subjective norm, trust, and continuance intention for respondents with different ages

In this study, 156 respondents were categorized into four groups according to their education qualifications: secondary education; sub-degree; Bachelor degree; and Master degree. One-way ANOVA (Analysis of Variance) was applied to compare whether there are significant mean differences in perceived usefulness, perceived ease of use, subjective norm, trust, and continuance intention among four age groups. With reference to Table 4.25, there is not significant difference in perceived usefulness ($F = 1.158, p = 0.328$), perceived ease of use ($F = 1.834, p = 0.143$), subjective norm ($F = 1.762, p = 0.157$), and trust ($F = 1.53, p = 0.209$) at the 0.05 level. It is inferred that education does not have any significant impact on the factors that may affect the intention to use cloud storage services. However, significant differences in continuance intention among four groups of respondents with different educational qualifications are identified by one-way ANOVA ($F = 3.43, p < 0.05$). Scale means of

continuance intention are 3.769, 3.536, 3.708, and 3.021. It appears that the continuance intention of those respondents with the highest educational qualifications (e.g. Master degree) are particularly low, compared with the other respondents with lower educational qualifications. The difference is significant at the 0.05 level.

Table 4.25: Comparing scale means among four groups of respondents with different education qualifications by using ANOVA

	Education	N	Mean	Std. Deviation	F value	Sig.
Perceived Usefulness	Secondary education	27	3.750	0.846	1.158	0.328
	Sub-degree	63	3.548	0.907		
	Bachelor degree	42	3.821	0.928		
	Master degree	24	3.469	1.022		
Perceived Ease of Use	Secondary education	27	3.898	0.986	1.834	0.143
	Sub-degree	63	3.516	1.104		
	Bachelor Degree	42	3.679	1.010		
	Master Degree	24	3.250	1.008		
Subjective Norm	Secondary education	27	3.457	0.848	1.762	0.157
	Sub-degree	63	3.460	0.848		
	Bachelor degree	42	3.691	0.808		
	Master degree	24	3.208	0.821		
Trust	Secondary education	27	3.843	1.008	1.53	0.209
	Sub-degree	63	3.571	0.995		
	Bachelor degree	42	3.887	1.024		
	Master degree	24	3.438	1.014		
Continuance Intention	Secondary education	27	3.769	0.683	3.43	0.019
	Sub-degree	63	3.536	0.969		
	Bachelor degree	42	3.708	0.950		
	Master degree	24	3.021	1.076		

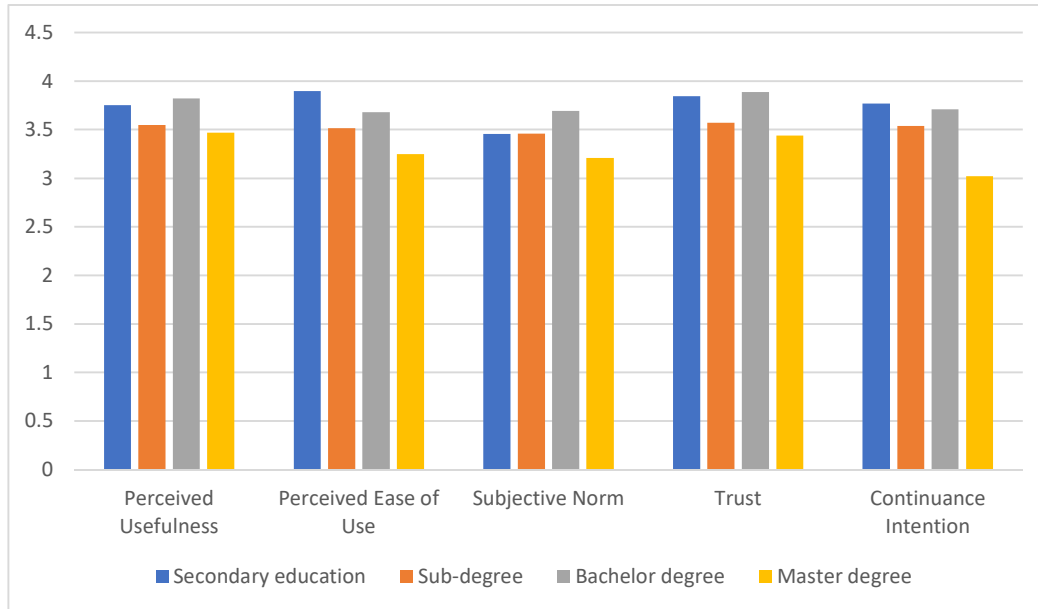


Figure 4.19: Scale means of perceived usefulness, perceived ease of use, subjective norm, trust, and continuance intention for respondents with different educational qualifications

4.6. Effects on Cloud Storage Continuance Intention

In this study, a research model (Figure 2.1) is proposed. The model suggests that perceived usefulness, perceived ease of use, subjective norm and trust are factors affecting consumer continuance intention to use cloud storage services. Hence, a multiple regression analysis was performed to examine the effects of four independent variables, including perceived usefulness, perceived ease of use, subjective norm and trust, on the dependent variable known as continuance intention. A regression model was generated. The coefficient of multiple determination (R Square) is 0.898 (Table 4.26). R Square is a statistical measure of how close the data are to the regression equation. It is also defined as the percentage of variance in dependent variable explained by the regression model. In Table 4.26, R Square is 0.898, suggesting