Q1.

Average Age of Adopter Group	Average Age of Non-Adopter Group	Observations
34.48	37.47	Ages in Adopter is younger than non-adopter.

Hypothesis	t-statistic	p-value	Findings by t-test
There is the difference between Adopter and Non-Adopter	-42.525	p< 2.2e-16 (sig. & supported)	They are significantly different in terms of ages. Ages in Adopter is younger than non-adopter.

Q2.

Number or Proportions	Female	Male	Business user	Total	Observations
Adopter Group	14395	15533	72	3000	Male has higher in adopter.
Non-Adopter Group	17426	12388	186	3000	Female has higher in non-adopter.

Hypotheses	t-statistic	p-value	Findings by t-test
H1: There is gender difference between Adopter	-26.738	p< 2.2e-16 (sig. & supported)	Male has higher in adopter.
H2: There is gender difference between Non-Adopter	41.865	p< 2.2e-16 (sig. & supported)	Female has higher in non-adopter.

Q3.

	PC transactions	Mobile transactions	Total transactions via adopter
No. of transactions regarding OrderPrice	1234555	50793	1285348
Average OrderPrice	33028.35	25253.90	-

Hypothesis	t-statistic	p-value	Findings by t-test
There is difference between PC and Mobile transactions with Adopter	-42.525	p< 2.2e-16 (sig. & supported)	PC transaction is larger than mobile transaction in Adopter
This is consistent with my conjecture because using mobile transaction via mobile device is much harder to read due to small screen size, much complexity to search, risk aversion with less secured transaction and limited product search with poor UI in mobile channel.			

Q4

	PC transactions	Mobile transactions	Total transactions via adopter	Observations
No. of Confirmation	196209	1089139	1285348	Confirmation in Mobile are larger than PC transactions.
Confirmation rate (%)	196209/1285348~ 15%	1089139/1285348 ~ 85%	-	Confirmation rate in Mobile tare larger than PC transactions.

Hypothesis	t-statistic	p-value	Findings by t-test
There is difference in Confirmation rate (Crate) between PC and Mobile transactions via Adopter group	1548.5	p< 2.2e-16 (sig. & supported)	Mobile transaction is larger Confirmation rate than PC transaction in Adopter.
This is consistent with my conjecture because short time completion in mobile transactions and make an order with few clicks only, eventually increase confirmation rate.			

Q5.

	Certificates	No. of transactions that the seller is not a trickster (OKSeller)/(%)	The seller is shipping products faster than others (QuickSeller) /(%)	The seller has sold products a lot through the marketplace (BigSeller)
For Adopter with PC & Mobile Channel	Yes	885421 (68.9%)	628360 (48.9%)	952042 (74.1%)
	No	397539 (30.9%)	656134 (51%)	330918 (25.7%)
	NA	2388 (0.19%)	854 (0.07%)	2388 (0.19%)
	Total:	1285348 (100%)	1285348 (100%)	1285348 (100%)
	Observation	Around 68.9% of transactions that the seller is not a trickster	Around 51% of transactions that the seller is not shipping products faster than others.	Around 74.1% of transactions that the seller has sold a lot of products through the marketplace.

	Certificates	PC Channel	Mobile Channel	**Total No. of transaction via three certificates**	**Observation#1**
For Adopter with Mobile Channel	OKSeller	848963 (95.9%)	36458 (4.1%)	**885421 (100%)**	Certificates of OKSeller (95.9%) is obtained via PC channel
	QuickSeller	603256 (96%)	25104 (4%)	**628360 (100%)**	Certificates of QuickSeller (96%) is obtained via PC channel
	BigSeller	913974 (96%)	38068 (4%)	**952042 (100%)**	Certificates of Bigseller (96%) is obtained via PC channel
Observation#2: OkSeller, QuickSeller and BigSeller are obtained more transactions via PC Channel					

Further study and Suggestions for (i) screening &(ii) main effect and interaction effect on OKSeller, QuickSeller and BigSeller by ANOVA**:** From results of ANOVA, Pr(>F) is very close to zero, for adopter with mobile channels, "confirmed price" is a significant predictor, except the interaction of OkSeller and BigSeller, which is not significant. Therefore, using "confirmed price" is the best predictor to identify three kinds of certificates (OkSeller,QuickSeller & BigSeller).
See more details in R Markdown (Assignment 1c.Rmd) with R-Studio which including R-code and visualization graphs.