

# DETERMINANTS OF CASHLESS PAYMENT METHOD CHOICE AMONG INTERNATIONAL STUDENTS IN THEIR HOST COUNTRY: EVIDENCE FROM GUJARAT, INDIA

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## **Abstract**

Cashless payment methods play a significant role in economic modernization. This study used a cross-section design to investigate determinants of the choice of cashless payment methods among International students in India. Data were collected by using structured questionnaires from 250 international students studying in different universities in Gujarat state. The multinomial logistic model results show that, age and perceived security are positive and statistically significant determinants for choice of any cashless payment method (relative to cash). The study level (master with reference to undergraduate) is positive and statistically significant at 5% level for a choice of internet banking and credit/debit cards. Perceived usefulness is found to be positive and statistically significant at 5% level for credit/debit card payment method. The study call upon inclusive financial policies and programmes to enable new young foreign students to adopt and use cashless payment methods for integrative digital economy.

**Keywords:** cashless payment; digital payment; International students; multinomial logistic model; India

## **INTRODUCTION**

Adoption of cashless payment method is an important aspect in the current globalized and technology-based economies. Cashless payment methods, also known as digital payment systems involve fund transactions without using physical cash (Sivathanu, 2019). Usage of cashless payment systems in shopping has remarkably increased by 14% from 621.5 billion in 2018 to 708.5 billion in 2019 in the global economy (Rahman et al., 2020). It is estimated that, China and India are leading countries in Asia with higher e-commerce economy (Kalia et al., 2017). In India, digital payments are projected to worth 10.07 trillion in 2026, constituting about 65% of overall payments in the economy (BCG & PhonePe, 2021).

Cashless payment systems are getting popularity over time; they provide convenience for a buyer to perform a transaction at any time even when sitting at home. The process of adoption of cashless economy in India has been associated by different projects like “Digital India” which aimed at reducing physical bank notes from money circulation (Aggarwal et al., 2021). It was in November 8, 2016, when the Prime Minister of India announced demonetization of currency for 500 and 1,000 rupee denominations so as push people to opt for cashless payment systems (O.C.F, 2016). Demonetization of such currencies also targeted to increase government power to control money in circulation and eradicate fake bank notes (Lahiri, 2020). In order to facilitate the process of economic digitization, government of India (GOI) has ensured availability of quality digital payment infrastructure for businesses as well as provide incentives for consumers like free-of-charge online transactions, cashback motive and low internet charges (Goel, 2020). It is reported that, cashless payment methods make transaction traceability easy as it increase transparency, accuracy and accountability in financial sector (Baghla, 2018; Kumar, 2017). In the bank sector, cashless transactions increase bank profit and efficiency of workers (Shaikh & Anwar, 2022).

Alongside digital India, GOI has also introduced “Educate in India” program, attracting a large number of foreign students mainly from other Asian countries and Africa as a way to internationalize the higher education system (Sajna, 2019). When evaluated in the global education quantitative ranking, India is the third (just behind China and U.S.A) country with largest number of international students in higher learning institutions (Mitra, 2010; Sajna, 2019; Sheikh, 2017; UNESCO, 2013). The “Educate in India” project which was introduced in 2015 aimed to make India as the center of quality and competitive higher education in Asia and in the global academic ranking (Joshi & Ahir, 2019). From academic year 2010/2011 to 2019/2020, the number of enrolled

international students in India increased from 27,531 to 49,348, an increment of 14% (Sajna, 2019). Likewise, in Aug 2022, University Grants Commission (UGC) allowed Higher Education Institutions (HEIs) to enroll up to 25% extra international students (GOI, 2022). Such large and increasing group of international students contributes much in Indian economy when they purchase different commodities like food products, stationeries, clothes, payments for service like electricity, water, internet, insurance, treatment, transport and fees during their study time. Integration of international students into cashless payment systems is crucial for digital transformation of Indian economy. It should be noted that, international students in India are mainly from African countries and other Asian countries, who have different experiences in digital payment usage (Government of India, 2020). Researches show that, usage of cashless financial services facilitate financial inclusion of minority in the economy (Fernandes et al., 2021).

In India context, the top ten cashless payment methods are Unified payment interface (UPI), mobile wallet (like PayTM, MobiKwik, PayUmoney and Amazon Pay), internet banking, mobile banking, banking cards, unstructured supplementary service data (USSD), Aadhaar enabled payment service (AEPS), Micro ATMs, point of sale machines and prepaid cards (BCG & PhonePe, 2021; Gupta, 2021; Hilson et al., 2020; KPMG, 2016; Tiwari & Singh, 2019). Given different cashless payment methods, the level of choice preference is asymmetrical among consumers and business enterprises. Focusing on consumers as per this research paper, studies show that, low income earners prefer to pay by cash due to its ease of use and low transaction cost (Greene & Stavins, 2020; Świecka et al., 2021; Swiecka & Grima, 2019). In contrary to that, students prefer to use cashless payment methods as compared to other consumer groups (Ho et al., 2022).

Carow and Staten (1999) applied nested multinomial logistic model to examine the choices of mode of payment in gasoline purchases in U.S.A. With consideration of cash and credit cards, the study revealed that income and education has positive and significant influence on credit card payment method. The positive influence of education on credit card usage (relative to cash) was also identified by Awirya (2021) in the study conducted in Indonesia. In addition to that, age and perceived security found to be the significant factors with positive influence on the choice of credit/debit card payment method (Nguyen & Quan, 2013).

For the case of mobile wallet, Kustono et al. (2020) investigated determinants of the use of e-Wallet for transaction payment among college students in Indonesia. The study found that, perceived ease of use has positive and significant effect (indirectly through perceived usefulness) on attitude towards electronic wallet usage for payments. In the similar manner in India; perceived ease of use has positive effect on usefulness and trust, perceived usefulness has positive effect on attitude and intention to use mobile wallet payment method and the same applied to gender (male) and age (youths) (Chawla & Joshi, 2019, 2020). However, Subawa et al. (2021) found that ease of use of a cashless method is significantly positive for women as compared to men which are opposite to what was found by Hamza (2014) in Nigeria.

Given two or more payment methods, the consumer can prefer to use one option relative to another depending on influencing factors. The reviewed literature on digital payment systems show that usefulness, ease of use and trust are significant factors with positive influence on adoption and usage (Subawa et al., 2021; Welly et al., 2020). However, studies that have included consumer characteristics show that gender (male) and age (younger) positively influence acceptance of cashless payment systems (Chawla & Joshi, 2020; Hamza, 2014). Disaggregated studies for separate categories of cashless payment methods also indicate inconsistent results among different studies (Carow & Staten, 1999; Kustono et al., 2020; Swiecka & Grima, 2019).

Despite an increasing interest of scholars on digital payment system adoption and usage for different consumer groups, but little is known on international students. Researches on financial technology adoption and usage have mostly applied structured equation models which cannot be suitable for polytomous dependent variable (Kwak & Clayton-Matthews, 2002). India initiatives on education internationalization are expected to attract more international students who will constitute a significant group of consumers at in domestic economy. To the best of our knowledge, little is known on determinants of choice of cashless payment methods among foreign residents. The question is why students opt for a particular cashless payment method (relative to cash)? This study uses multinomial logistic model to examine factors influencing choice of cashless payment method among international students in India.

## METHODOLOGY

### Data

This study used cross-sectional research design to identify determinants of cashless payment method choice for international students in India. A total of 2,260 international students were recorded from different universities in Gujarat state. The states were purposefully chosen as it is among of the top 10 states with highest number of international students in India (Government of India, 2020). It should be noted that, the list of identified international students was obtained from main WhatsApp groups for international students who are under Indian Council for Cultural Relations (ICCR) scholarship. From equation 1, a sample of 340 students was obtained by using Yamane formula for finite population (Yamane, 1967).

$$n = \frac{N}{1 + Ne^2} \quad (1)$$

$N$  = Population size  
 $e$  = desired (0.05).

In order to select 340 students from 2,260, a list of 340 random numbers was generated by an online statistic tool called *Stat trek* (Appendix A). Online random sample calculator is an appropriate probabilistic method for selecting sample from a list of finite elements (Berman, n.d.). In the *stat trek* website dialogue box, the required data (random numbers=340, minimum value=1, maximum value=2,260, duplicate entries=false and seeds=none) were filled to generate the list of random numbers (Appendix A). Structured questionnaires were sent to 340 students through both physical visit and online platforms (email and Whatsapp). From 340 questionnaires administered to respondents 250 (73.5%) were returned, well filled and coded in SPSS 20 then exported to STATA 16 for statistical analysis.

**Model Specification and Variables:**

Theoretical perspectives on determinants of adoption, usage and choice of technological innovation have been changing over time. The theories summarised in Table 1 with their extension have generated an important view of predictor variables for technological adoption and usage.

**Table 1:** Theories on determinants of technological usage, choice and adoption

Theory	Variables	Author(s)
Theory of Reasoned Action (TRA): <i>A person's behaviour is determined by their intention to perform the behaviour.</i>	Behaviour intention (BI) is influenced by: i.attitude toward behaviour (A) ii.subjective norm (SN) related to behaviour	(Fishbein & Ajzen, 1977; Leach et al., 2001; Sheppard et al., 1988)
Theory of Planned Behaviour (TPB): <i>An extension of the TRA applied to behaviours that are not entirely under volitional control. Therefore, Perceived Behaviour Control (PBC) was introduced as an independent predictor of intention in TPB for situations out of an individual's control or resources.</i>	Human behaviour is guided by three kinds of belief: i.Behavioural beliefs ii.Normative beliefs iii.Control beliefs	(Ajzen, 1991)
Technology Acceptance Model (TAM): <i>An extension of TRA and TPB</i>	Attitude to use a technology is determined by: i.perceived ease of use (PEOU) ii.perceived usefulness (PU)	(Davis, 1989)
Unified Theory of Acceptance and Use of Technology (UTAUT):	Four key constructs as direct determinants of technology usage intention and behaviour: i.performance expectance ii.effort expectancy iii.social influence iv.facilitating conditions The key moderators are gender, age, experience and voluntariness of use	(Venkatesh et al., 2003)

Note: Extension of TAM and UTAUT incorporate other more factors like trust, perceived security, anxiety, personal innovativeness and education level.

Source: *Adopted (with modification) from Riffai et al.(2012)*

In this study, the dependent variable is the type of cashless payment method mostly preferred by a student while the independent variables are demographic characteristics and other factors namely perceived ease of use, perceived usefulness, security and social influence. The last four independent variables (constructs) were checked reliability and satisfied the criterion of acceptable Cronbach's Alpha. The items are considered to be reliable if the Cronbach's Alpha is greater than 0.7 (Beaman et al., 2017). Multinomial logistic model is suitable to capture the effect of predictors on polytomous response variable (Hausman & McFadden, 1984; Hossain et al., 2014). A few number of publications on payment method choice have applied Multinomial logistic model in different context (Arango et al., 2015; Awirya, 2021; Ching, 2008; Kemper & Deufel, 2018; Longhui, 2017; Shree et al., 2021) though no one has studied on international students in India. The model is mostly preferred as it does not require normality, linearity, or homoscedasticity of variables (Kwak & Clayton-Matthews, 2002).

According to McFadden (1974), if a consumer is subjected to more than two choices, he/she will opt for a choice that maximizes his/her satisfaction, given a list of influencing factors. In this setting, cashless payment methods are so many in India, this study grouped them into three main categories; these are online banking, mobile wallet and credit/debit cards. For that case, given four choices (0=cash, 1=internet banking, 2=mobile wallet and 3=credit/debit cards), an individual  $p$  will prefer an option  $q$  to  $z$ , given that  $U_{pq} > U_{pz}$ . Where  $U$  is an unobservable utility a student get from his/her choice  $q$ . By letting  $V_{pq}$  and  $V_{pz}$  as observable utilities for options  $q$  and  $z$  respectively. Then

$$U_{pq} = V_{pq} + \epsilon_{pq} \rightarrow U_{pz} = V_{pz} + \epsilon_{pz}; \text{ for } q \neq z; \epsilon_{pq} \text{ and } \epsilon_{pz} \text{ are } \sim iid \quad 2$$

$$Prob(U_{pq} > U_{pz}) = Prob(V_{pq} + \epsilon_{pq} > V_{pz} + \epsilon_{pz}) \quad 3$$

For an individual to choose a cashless category  $q$ ; the multinomial model is given as;

$$Prob(q|k) = \frac{e^{V(X_q)}}{\sum_{q=1}^k e^{V(X_z)}}, \text{ for } k=1, 2, 3 \text{ and } 4. \quad 4$$

$$V_{pq} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 \quad 5$$

Where  $\beta_1, \beta_2, \dots, \beta_8$  are unknown parameters to be estimated by using maximum likelihood method.

$X_1, X_2, X_3, X_4, X_5, X_6, X_7$  and  $X_8$  represents age, gender, study level, hostel, perceived ease of use, perceived usefulness, security and social influence respectively. Age was recorded in ordinal scale (18-24, 25-34, 35-44 and above 44), gender in binary nominal (1=female, 0=male), study level in ordinal scale (1=undergraduate, 2=master and 3=PhD/M.Phil.) and hostel as binary nominal (1=on-campus and 0=off-campus). Additionally, each latent variable were calculated by the mean of its constructs.

## RESULTS AND DISCUSSION

### Descriptive statistics

As depicted in Table 1, this study involved 250 respondents whereby 61% of them were male, implying asymmetrical gender representation in enrolment of international students in India (Government of India, 2020). On average, a respondent is aged 28 years with standard deviation of 4.601. Most of respondents were at young adulthood age (18-35) due to age limit set for university admission and requirement for scholarship to study in India. For example, the ICCR scholarship age requirement is 18-30 for undergraduate and master degree and should not exceed 45 years for PhD (GOI, n.d.). More than half (51%) of respondents were at master (postgraduate) level followed by undergraduate students who represented 38% of respondents. About 63% of international students live on-campus and they take a higher proportion of users of any payment method category as shown in Table 2.

**Table 2:** Demographic characteristics and payment methods

	Cash	Internet banking	Mobile wallet	Credit/debit cards	Total
<b>Summary</b>	109 (44%)	57 (23%)	21 (8%)	63 (25%)	250 (100%)
<b>Age</b>					
Mean	26	28	29	31	(28)
Standard deviation	3.874	3.887	4.678	4.975	(4.601)
<b>Gender</b>					
Male	67 (61%)	36 (63%)	16 (76%)	34 (54%)	153 (61%)
Female	42 (39%)	21 (37%)	5 (24%)	29 (46%)	97 (39%)
<b>Study Level</b>					
Undergraduate	62 (57%)	22 (38%)	6 (29%)	5 (8%)	95 (38%)
Master	44 (40%)	34 (60%)	12 (57%)	38 (60%)	128 (51%)
PhD/M.Phil.	3 (3%)	1 (2%)	3 (14%)	20 (32%)	27 (11%)
<b>Hostel</b>					
Off-campus	40 (37%)	18 (32%)	11 (52%)	23 (37%)	92 (37%)
On-campus	69 (63%)	39 (68%)	10 (48%)	40 (63%)	158 (63%)

Note: (28) and (4.601) are overall mean and standard deviation respectively. The maximum and minimum age are 45 and 20 years respectively

Source: The Authors

### Multinomial logistic Model Results

Maximum log-likelihood of model estimation reached at 6<sup>th</sup> iteration (Appendix B) show that the model is significant. The model summary on Table 3 (LR chi2 (33)=331.40, Prob>chi2=0.000, Pseudo R2=0.528) implies that at least one of the predictor variables is statistically significant.

**Table 3:** Multinomial logistic model summary

Number of obs	LR chi2(33)	Prob > chi2	Pseudo R2
250	331.40	0.000	0.5284
Log Likelihood=-147.90			

Reference category (base outcome)

Cash payment method

Source: The Authors

For internet banking payment method, the output presented in Table 4 show that age, study level (master with reference to undergraduate) and perceived security have positive and statistically significant influence on the choice relative to cash payment method at 5% level. As age increases by one unit, the log-odds to choose internet banking (relative to cash) increases by 0.1364. For study level, the log-odds of opting for internet banking for master students is 1.020 higher than undergraduate students. Likewise, the student who strongly agrees that internet banking is secure payment method (relative to cash) has 3.660 higher log-odds than who strongly disagree. Surprisingly, both perceived ease of use and perceived usefulness were insignificant, different from the idea from TAM (Davis, 1989).

**Table 4:** Multinomial logistic model results for internet banking payment method

Variable	Coef.	z	P> z
Age	0.1364**	2.210	0.027
Gender (Female)	-0.379	-0.730	0.465
Study level			
Master	1.020**	2.090	0.037
PhD/M.Phil.	-1.664	-1.100	0.271
Hostel	-0.198	-0.380	0.702
Perceived ease of use	-0.633	-1.620	0.106
Perceived usefulness	-0.310	-0.610	0.543
Perceived security	3.660**	6.39	0
Social influence	-0.705*	-1.7	0.09
_cons	-9.903**	-4.06	0

Note: \* and \*\* indicate significance level at 10% and 5% respectively

Source: The Authors

In opting for mobile wallet payment method, the output presented in Table 5 show that age and perceived security have positive and statistically significant effect at 5% level. When age increases by one unit, the log-odds to prefer mobile wallet (relative to cash) increases by 0.207 units. For perceived security, the student who strongly agrees that mobile wallet is a secure payment method (relative to cash) has 3.895 higher log-odds than who strongly disagree. Level of education was weakly significant at 10% level.

**Table 5:** Multinomial logistic model results for mobile wallet payment method

Variable	Coef.	z	P> z
Age	0.207**	2.54	0.011
Gender	-1.146	-1.5	0.133
Study Level			
Master	1.207*	1.72	0.086
PhD/M.Phil.	0.662	0.49	0.626
Hostel	-0.821	-1.190	0.234
Perceived ease of use	-0.650	-1.220	0.222
Perceived usefulness	0.627	0.990	0.322
Perceived security	3.895**	5.250	0.000
Social influence	-0.428	-0.660	0.509
_cons	-17.093**	-5.010	0.000

Note: \* and \*\* indicate significance level at 10% and 5% respectively

Source: The Authors

The model output for credit/debit cards choice presented in Table 6 show that, age, study level (master with reference to undergraduate), perceived usefulness and perceived security are significant variables ( $p < 0.05$ ). As age increases by one unit, the log-odds to choose credit/debit cards (relative to cash) increases by 0.293 units. The log-odds of preferring credit/debit cards for master study level is 2.738 higher than undergraduate level. The student who has higher score on perceived ease of use of credit/debit cards (relative to cash) has 2.381 higher log-odds than who has lower score in the likert scale options. The higher score on perceived usefulness of credit/debit cards (relative to cash) increases the log-odds by 3.976 units.

**Table 6:** Multinomial logistic model results for credit/debit cards payment method

Variable	Coef.	z	P> z
Age	0.293**	3.510	0.000
Gender	-0.269	-0.360	0.717
Study Level			
Master	2.738**	3.2	0.001

PhD/M.Phil.	2.429*	1.72	0.086
Hostel	-0.311	-0.43	0.669
Perceived ease of use	0.154	0.26	0.794
Perceived usefulness	2.381**	3.58	0
Perceived security	3.976**	4.91	0
Social influence	-1.043	-1.58	0.113
_cons	-27.516**	-6.88	0

Note: \* and \*\* indicate significance level at 10% and 5% respectively

Source: The Authors

The effect of independent variables on comparison choices relative to cash payment method presented in tables (3-5) are supported by relative risk ratios (RRR) of greater than 1 (Appendix C). The RRR coefficients indicate the possibility to fall into the comparison category (relative to the baseline category), given a predictor variable (Simon, 2001).

International students have heterogeneous cashless payment method preferences depending on socio-economic and technological theory related factors. From the results, age has a significant, positive influence on the choice of any type of cashless payment method (relative to cash). It imply that, the more the international student become older the higher the experience and the higher the likelihood to choose new (cashless) payment method. This finding is accordant to other studies on the similar topic (Chawla & Joshi, 2019, 2020; Nguyen & Quan, 2013). The study level is an indicator of income level differences among students who receive monthly stipend from scholarships. In this study, an increase of study level from undergraduate to master (postgraduate) level has significant and positively influence on the choice of cashless payment method especially internet banking and credit/debit cards, which is similar to results of other researches like (Awirya, 2021; Greene & Stavins, 2020; Swiecka & Grima, 2019). The study implies that, younger undergraduate international students are likely to use more cash than cashless payment methods like internet banking and plastic cards. It is also an indication that, some students are coming from countries where cash is mainly used rather than cashless payment systems.

Other significant factors were perceived security (for internet banking and mobile wallet); and perceived usefulness (for choice of credit/debit cards) which is concordant to the study by previous studies (Kustono et al., 2020; Pandey & Chawla, 2019). According to Davis (1989), perceived ease of use influences the perceived usefulness of the given technology, but in this study only perceived usefulness was significant and not both.

## CONCLUSION

Preferences of cashless payment methods among consumers are asymmetrical. Both consumer perceptions and demographic characteristics play a significant role in deciding the mode of payment to use. In this paper, three categories of cashless payment methods (internet banking, mobile wallet and credit/debit card) were studied. The findings show that both age and perceived security has positive and statistically significant effect for a choice of any cashless payment method. The findings imply that, younger students have limited exposure and experiences on cashless payment methods. Likewise, perceived security is an important attribute considered by international students when choosing any cashless payment method. The study findings are useful for financial practitioners and policy makers in innovating more secure and inclusive cashless payment methods. Financial institutions and digital payment start-ups should provide orientation programmes during account opening process especially for new young international students so as to increase adoption. Further studies should use a mixed research approach to obtain more comprehensive information on payment method preferences and adoption of cashless payment methods.

## DECLARATIONS

**Competing Interest:** The authors have no any competing interest on materials discussed in this manuscript

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### Appendices

#### Appendix A: Random Numbers for sample size

340 Random Numbers																													
1418	2010	1519	677	479	1946	77	1041	1906	2124	1427	1508	285	1650	854	1725	1439	1926	1549	375	699	691								
200	2235	160	1025	1145	2074	899	451	1164	1525	1526	300	1827	1493	2063	887	2190	741	1998	2081	955	1461								
275	778	1871	1022	931	1969	1150	924	1811	344	676	22	2059	643	422	2164	1270	405	1015	324	663	1643								
120	547	366	1212	659	762	2111	28	1163	842	1199	783	1870	286	2035	1091	926	1392	2103	652	2194	1608								
904	669	815	1172	1067	606	1229	832	1045	1208	1556	850	1766	1485	446	1224	1534	940	1603	1572	1477	739								
816	2252	1368	1020	312	150	262	202	1618	1290	1657	1726	1187	1630	1639	1371	2030	132	1016	248	1257	738								
86	209	757	1706	419	1783	1328	1854	53	1722	759	1533	1385	1050	1676	1350	870	1670	21	2259	1334	477								
1243	1179	1652	1667	982	1	1728	1363	1180	803	1895	295	1472	2042	1428	1645	2215	615	977	141	376	2006								
74	1205	2253	2205	112	1558	678	15	1043	1024	2212	1802	909	561	1954	2091	1504	1505	1294	1398	2220	1100								
859	1814	175	838	664	722	276	1268	711	70	1080	2157	49	1325	1986	925	908	1388	1389	115	1543	851								
496	329	1077	489	400	1356	570	1018	507	1848	1818	1421	431	2020	140	2189	146	1712	2180	1742	17	1434								
623	2102	530	1436	2068	58	2098	1815	78	1979	609	1069	2219	101	394	478	1555	2049	619	953	296	938								
188	1253	399	610	93	1607	553	1700	777	471	436	535	1063	1105	891	1444	1469	185	1176	1635	1271	445								
582	800	5	226	732	725	2024	1977	330	194	352	1933	1002	560	1922	1013	463	1181	600	1230	389	320								
9	50	357	23	2078	785	2000	1466	1924	461	1810	2037	700	592	1289	2108	156	2170	919	2054	1475	1967								
905	726	1731	2014	729	1671	1693	1085	1705	1971																				

#### Appendix B: Multinomial logistic STATA output screenshot

```
. mlogit pay_method age gender i.studylevel hostel peou pu sec si, base(0)

Iteration 0: log likelihood = -313.60193
Iteration 1: log likelihood = -166.59525
Iteration 2: log likelihood = -151.88633
Iteration 3: log likelihood = -147.93546
Iteration 4: log likelihood = -147.90031
Iteration 5: log likelihood = -147.90027
Iteration 6: log likelihood = -147.90027

Multinomial logistic regression              Number of obs   =           250
                                             LR chi2(27)    =          331.40
                                             Prob > chi2    =           0.0000
Log likelihood = -147.90027                 Pseudo R2      =           0.5284
```

pay_method	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
0	(base outcome)				
1					
age	.1364014	.0617739	2.21	0.027	.0153267 .2574761
gender	-.379496	.5197755	-0.73	0.465	-1.398237 .6392452
studylevel					
2	1.020232	.4892392	2.09	0.037	.0613411 1.979123
3	-1.664219	1.510532	-1.10	0.271	-4.624808 1.29637
hostel	-.1978097	.5175839	-0.38	0.702	-1.212255 .8166362
peou	-.6332945	.3915318	-1.62	0.106	-1.400683 .1340937
pu	-.3104432	.5100367	-0.61	0.543	-1.310097 .6892104
sec	3.660428	.5726845	6.39	0.000	2.537987 4.782869
si	-.7056293	.4157746	-1.70	0.090	-1.520533 .1092738
_cons	-9.903554	2.441415	-4.06	0.000	-14.68864 -5.118469
2					
age	.2079632	.0819965	2.54	0.011	.047253 .3686734
gender	-1.146076	.7627496	-1.50	0.133	-2.641038 .3488854
studylevel					
2	1.207078	.7024177	1.72	0.086	-.1696351 2.583792
3	.6626654	1.357799	0.49	0.626	-1.998572 3.323903
hostel	-.821587	.6907553	-1.19	0.234	-2.175443 .5322686
peou	-.6502828	.5322226	-1.22	0.222	-1.69342 .3928543
pu	.6272514	.6336527	0.99	0.322	-.614685 1.869188
sec	3.895373	.7423788	5.25	0.000	2.440337 5.350408
si	-.4286835	.6489529	-0.66	0.509	-1.700608 .8432408
_cons	-17.09316	3.409069	-5.01	0.000	-23.77481 -10.41151
3					
age	.2933108	.0836734	3.51	0.000	.129314 .4573076
gender	-.2693473	.7430682	-0.36	0.717	-1.725734 1.18704
studylevel					
2	2.738422	.8566196	3.20	0.001	1.059478 4.417365
3	2.429397	1.414614	1.72	0.086	-.3431963 5.20199
hostel	-.3119584	.7302785	-0.43	0.669	-1.743278 1.119361
peou	.1545458	.5903949	0.26	0.794	-1.002607 1.311699
pu	2.381638	.6652504	3.58	0.000	1.077771 3.685505
sec	3.976911	.8105627	4.91	0.000	2.388238 5.565585
si	-1.043097	.6588684	-1.58	0.113	-2.334455 .2482612
_cons	-27.51647	4.000579	-6.88	0.000	-35.35746 -19.67548

**Appendix C: Relative Risk Ratios from Multinomial Model Results**

Payment method	Variable	RRR	z	P> z
<b>Internet banking</b>	Age	1.146	2.210	0.027
	Gender (Female)	0.684	-0.730	0.465
	<i>Study level</i>			
	Master	2.774	2.090	0.037
	PhD/M.Phil.	0.189	-1.100	0.271
	Hostel	0.821	-0.380	0.702
	Perceived ease of use	0.531	-1.620	0.106
	Perceived usefulness	0.733	-0.610	0.543
	Perceived security	38.878	6.390	0.000
	Social influence	0.494	-1.700	0.090
	_cons	0.000	-4.060	0.000
<b>Mobile wallet</b>	<b>Age</b>	1.231	2.540	0.011
	<b>Gender</b>	0.318	-1.500	0.133
	<b>Study Level</b>			
	Master	3.344	1.720	0.086
	PhD/M.Phil.	1.940	0.490	0.626
	Hostel	0.440	-1.190	0.234
	Perceived ease of use	0.522	-1.220	0.222
	Perceived usefulness	1.872	0.990	0.322
	Perceived security	49.174	5.250	0.000
	Social influence	0.651	-0.660	0.509
	_cons	0.000	-5.010	0.000
<b>Credit/debit cards</b>	<b>Age</b>	1.341	3.510	0.000
	Gender	0.764	-0.360	0.717
	<b>Study Level</b>			
	Master	15.463	3.200	0.001
	PhD/M.Phil.	11.352	1.720	0.086
	Hostel	0.732	-0.430	0.669
	Perceived ease of use	1.167	0.260	0.794
	Perceived usefulness	10.823	3.580	0.000
	Perceived security	53.352	4.910	0.000
	Social influence	0.352	-1.580	0.113
	_cons	0.000	-6.880	0.000