

CHAPTER 4
DATA ANALYSIS AND RESULT

The findings of the data collection, data analysis and the outcomes of the research are put on view in this chapter. The first part shows off the survey's result, descriptive analysis. The second part is demonstrated the relationship among the variables and sum-up the hypothesis testing.

4.1 Descriptive analysis

4.1.1 Characteristics of Respondents

Data collection took place from May to mid-July of year 2013. A total of 389 respondents participated in the survey. Out of these 389 samples, 74 samples were eliminated due to partial respond, missing data and answered the demographic questions only (80.97% response rate). Demographic data for the respondents are shown in Table 4.1

Table 4.1 Demographic profile of the respondents

Variable		Frequency	Percentage(%)
Gender	Female	168	53.3
	Male	146	46.3
	Missing	1	0.3
Age	18 - 30	216	68.6
	Over 30	98	31.2
	Missing	1	0.2
Education degree	High school or under	15	4.8
	Trade shool/college	36	11.4
	University	158	50.2
	Graduate school	102	32.4
	Others	3	1.0



	Missing	1	0.2
Occupation	Office clerk	52	16.5
	Worker	20	6.3
	Manager	9	2.9
	Executive	32	10.2
	Academic	53	16.8
	Technician	51	16.2
	Student	82	26.0
	Others	14	4.4
	Missing	2	0.7
Income	Under \$200	94	29.8
	\$200-\$300	104	33.0
	\$300-\$500	48	15.2
	\$500-\$700	28	8.9
	Over \$700	37	11.7
	Missing	4	1.4
Living or working environment	Countryside or suburb	93	29.5
	Urban	221	70.2
	Missing	1	0.3
Experience of using internet	Never or less than 1 month	18	5.7
	1 - 6 months	5	1.6
	6 months - 1 year	11	3.5
	1 - 3 years	36	11.4
	3 -5 years	33	10.5
	Over 5 years	212	67.3
	Missing	0	0.0
Internet access	At home	74	23.5



location	At school	2	0.6
	At work	59	18.7
	Combine at least 2 of these factors	165	52.4
	Missing	15	4.8
Experience of using internet banking	Never	114	36.2
	1 - 6 months	41	13.0
	6 months - 1 year	31	9.8
	1 - 3 years	79	25.1
	3 - 5 years	27	8.6
	Over 5 years	16	5.1
	Missing	7	2.2
Frequencies using IB for experienced users	One time per week at least	81	25.7
	One time per month at least	81	25.7
	One time per 6 months at least	35	11.1
	Missing	118	37.5

Male and female were nearly even distributed. Male respondents account for 46.3% (146 males) of the sample, while female respondents account for 53.3% (168 females). Most of the respondents were young age, 68.6% of age from 18 - 30, 31.2% for over 30 years old.

Most of respondents were well educated with 32.4% holding an advanced degree and 50.2% having a 4-year bachelor degree. With some occupation offered, most of respondents were students (26.0%), academic (16.8%), office clerk (16.5%) and technician (16.8%). The scale of monthly income almost stay under \$500 with 29.8% under \$200, 33.0% from \$200 - \$300 and 15.2% at \$300 - \$500.



The outcomes indicate that the mainly proportion (70.4%) of respondents work or study in urban area, only 93 people (29.5%) have their working or studying environment in countryside or suburb.

All most respondents are use internet for a long time (67.3% is use internet more than 5 years). The place for Internet access location is anywhere they can connect to the internet such at home, at work, at school or at home. Many respondents have never used IB (36.2%), 13.0% of respondents for experience of using IB under 1 year, 25.1% for experience of using IB from 1- 3 years, and above 3 years only get 13.7%. Frequencies using IB is one time per week at least with 25.7%, one time per month at least with 25.7% and 11.1% are for one six months at least.

4.1.2 Measurement Results for Relative Research Variable

Table 4.2 Descriptive Analysis for Research Variables

Variable	Description	Mean	Standard deviation
PEU	Perceived ease of use	3.805	1.029
PU	Perceived usefulness	4.0925	0.8925
T	Trust	3.728	0.8574
GS	Government support	3.565	0.95425
SI	Social influence	3.303	1.0416
IU	Intention to use	3.923	0.9135

From the Table 4.2, the mean of Perceived Ease of Use (3.805) and of Perceived Usefulness (4.0925) shows that respondents have tendency to use IB to increase their performance. The perception of customers evaluated on Trust seems lower (3.728). This result indicates that even users feel that IB is ease of use and usefulness for their work, but they are still in consideration safe and privacy security when using IB. Respondents also give positive evaluations on government support and social influence. The mean scores of two these construct are 3.565 and 3.303 respectively. For government support construct, its mean score shows off that



customers do not think the government supports enough for the development of IB system. About social influence (3.303), the finding pointed out that social influence has not much impact on respondents' intention to use IB service. Finally, the means of the construct intention to use is quite high (3.923), this reflect that respondents are willing to use IB. It is appropriate in practical that nowadays, IB remains immature in Vietnam; it's still a new system for Vietnamese. However, with the fast speed of developing IT, bankers will invest much more to develop this system and consequently customers will have more intention of using IB system in the future. In term of standard deviation (S.D), most of S.D values are accepted.

4.1.3 Relationship between age and education (Crosstable)

Table 4.3a Summary of crosstable between age and education

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PI1 * PI3	313	99.4%	2	0.6%	315	100.0%

Table 4.3b Crosstable between age and education

			Education				Total
			High school or under	Trade school/ college	University	Graduate school	
Gender	Female	Count	6	30	75	56	167
		% within gender	3.6 %	18.0 %	44.9 %	33.5 %	100%
	Male	Count	9	9	82	46	146
		% within	6.2%	6.2%	56.2%	31.5%	100%

	gender					
Total	Count	15	39	157	102	313
	% within gender	4.8%	12.5%	50.2%	32.6	100%

From the table 4.3b we see that the scale between male and female in education of respondents in the current study is quite similar.

4.2 The difference between Demographic Characteristics toward Research

Variables

This section will look at the difference between the respondents' demographic variables in relation to the research variables by using t-Test method (for Gender, Age, living or working environment), by using ANOVA method (for Education degree, Occupation, Income, Experience of using internet) in order to examine the different perceptions of population toward Intention to Use IB, Perceived Ease of Use, Perceived Usefulness, Trust, Government Support and Social Influence.

4.2.1 The difference between genders toward research variables

The outcome from Table 4.4 has pointed out that there is no significant difference found between male and female in relation with Perceived Ease of Use, Perceived Usefulness, Trust, Government Support and Social Influence. The awareness of Perceived Usefulness, Perceived Ease of Use, Trust, Government Support and Social Influence of using IB are mostly depends on respondent's knowledge. And most of respondent in this study are high education, especially there is not much space between male and female in education (see table 4.3b). Therefore, there are not significant differences between male and female in relationship with Perceived Usefulness, Perceived Ease of Use, Trust, Government Support and Social Influence.

However, there is a significant difference between female and male in relation with Intention to Use IB. The reason for this result is probably by the characteristic and the traditional of Vietnamese. These are that, in Vietnam men are



usually more active and willing to find out, learn and use new technology than women. Moreover, women are usually busy with housework, take care of children, and they look at their husband at the pillar of their family, who will mostly decide the important things of family.

Table 4.4 The t-test for Gender

Variable	Dimension	Mean	Standard deviation	t-value	df	p-value
PEU	Female	3.851	0.898	0.940	312	0.348
	Male	3.758	0.8514			
PU	Female	4.160	0.743	1.714	311	0.088
	Male	4.0137	0.767			
T	Female	3.781	0.7193	1.282	310	0.201
	Male	3.677	0.717			
GS	Female	3.628	0.786	1.423	310	0.156
	Male	3.496	0.845			
SI	Female	3.3154	0.8896	0.355	309	0.723
	Male	3.28	0.8561			
IU	Female	3.998	0.7351	1.990	308	0.047
	Male	3.831	0.7388			

4.2.2 The difference between ages toward research variables

Table 4.5 shows the t-test for age has found out that there is no significant difference between 18 - 30 ages and over 30 ages in relation with Perceived Ease of Use, Perceived Usefulness, Trust, Government Support, Social Influence and Intention to Use IB. This finding is probably explain by the fact that the target respondent of this research is young adult with age range from 18-40 (68.8% is from 18-30 and 31.2% is from 31-40) and most of them are hold the bachelor degree or graduate school (50.3% of bachelor degree and 32.5% is graduate school). Thus, their

awareness of Perceived Ease of Use, Perceived Usefulness, Trust, Government Support, Social Influence are not much.

Table 4.5 The t-test for Age

Variable	Dimension	Mean	Standard deviation	t-value	df	p-value
PEU	18 - 30	3.823	0.844	0.463	312	0.644
	Over 30	3.773	0.946			
PU	18 - 30	4.07	0.753	-0.864	311	0.388
	Over 30	4.15	0.761			
T	18 - 30	3.736	0.702	0.159	310	0.873
	Over 30	3.722	0.756			
GS	18 - 30	3.55	0.773	-0.687	310	0.492
	Over 30	3.61	0.898			
SI	18 - 30	3.33	0.867	0.819	309	0.414
	Over 30	3.24	0.882			
IU	18 - 30	3.93	0.721	0.357	308	0.721
	Over 30	3.90	0.782			

4.2.3 The difference between living environment toward research variables:

From table 4.6 there is a significant difference between people who live in countryside and who live in urban in Perceived Ease of Use ($p=0.041$), people who live in urban (mean=3.873) has more highly agree with perceived ease of use than who live in countryside (mean=3.652). This result is easy to understand because people who live in urban area is more familiar with new technology and they also have more advantages to learn and use new technology than people who are live in countryside.

On the other hand, there is no significant difference between who live in countryside and who live in urban area in relation with perceived usefulness, trust, government support, social influence and intention to use IB. Perceived Usefulness of IB is quite outstanding, so it is not difficult to recognize the usefulness of using IB. About Trust, because IB in Vietnam is quite new, technology in Vietnam is less develop, even outdate. Therefore, most of people in Vietnam think that using IB is not really secured. Government Support is clearer since every policy or direction to support for the development of IB is announcement on the media such as television, internet or newspaper. Last one, there is no significant difference between people who live in rural area and urban area in relationship with Social Influence on intention to use IB because the characteristic of Vietnamese is they often keep relationship with people around them and try to behave consistent with others in their relationship network regardless where they live.

Table 4.6 The t-test for living or working environment

Variable	Dimension	Mean	Standard deviation	t-value	df	p-value
PEU	Countryside	3.652	0.881	-0.2050	312	0.041
	Urban	3.873	0.868			
PU	Countryside	4.091	0.599	-0.080	311	0.936
	Urban	4.098	0.812			
T	Countryside	3.752	0.641	0.269	310	0.788
	Urban	3.728	0.748			
GS	Countryside	3.660	0.777	1.272	310	0.204
	Urban	3.531	0.828			
SI	Countryside	3.391	0.840	1.209	309	0.228
	Urban	3.260	0.885			
IU	Countryside	3.813	0.658	-1.703	308	0.090
	Urban	3.969	0.766			

4.2.4 The difference between education degrees toward research

variables:

From table 4.7, the p-value for 6 variables – Perceived Ease of use - PEU ($p=0.001$), Perceived Usefulness - PU ($p=0.629$), Trust - T ($p=0.035$), Government support - GS ($p=0.000$), Social Influence - SI ($p=0.009$) and Intention to Use IB - IU ($p=0.068$). Between them, PEU, T, GS, and SI are significant ($p<0.05$).

It is quite clearly that there are significant differences between education groups in relationship with Perceived Ease of Use since people with high education are often better at learning and using new technology than people with low education. It also similar with Trust, Government Support and Social Influence, high education respondents usually have more advantages to find out information and use new technologies. Therefore, their understanding and knowledge about new and advanced technology is often better low education groups.

The Perceived Usefulness of Using IB is remarkable and easy to identify and most of people can do it no matter what they are educated. That why the differences between education groups with Perceived Usefulness are not significant. About Intention to use, the result can be explained by the fact that in Vietnam cash is king. Everyone prefer to use money in hand than credit card or debit card, and they only intend to use IB if they have to or they are forced by specific conditions and their intention to use IB related a little to their education level.

Table 4.7 ANOVA comparison of research variables with education degrees

Education degree	Perceived ease of use		Perceived usefulness		Trust		Government support		Social influence		Intention to use	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. deviation	Mean	Std. Deviation	Mean	Std. Deviation
High school or Under	2.98	1.061	3.95	0.695	3.88	0.675	4.32	0.53	3.62	0.60	3.49	0.832

Trade school or college	3.71	0.91	4.12	0.748	4.01	0.740	3.72	0.794	3.54	0.857	3.81	0.733
Bachelor	3.81	0.834	4.05	0.738	3.70	0.687	3.57	0.761	3.34	0.855	3.94	0.708
Graduate	3.96	0.839	4.16	0.8013	3.64	0.744	3.40	0.87	3.08	0.897	4.00	0.762
F	5.942		0.579		2.904		6.580		3.898		2.400	
df	3		3		3		3		3		3	
p-value	0.001		0.629		0.035		0.000		0.009		0.068	

4.2.5 The difference between occupations toward research variables

Based on Table 4.8, ANOVA indicated that significant results appeared between occupation and perceived ease of use (PEU) with $p=0.000$, perceived usefulness (PU) with $p=0.036$, government support (GS) with $p=0.020$, and intention to use IB (IU) with $p=0.036$. However, there is no significant difference between groups that have difference occupation in choosing trust (T) with $p=0.139$ and social influence (SI) with $p=0.057$.

The results in this comparison are very simple to understand. Difference occupation will look at the ease of use of IB differently, for example it will be very easy for a technician to use IB, but it will be quite complex with a worker or freshman student. Similar to Perceived usefulness, Government Support and Intention to Use such as IB is very useful for an accountant or it is very familiar with a government officer with government support for IB.

There are no significant differences between occupation groups in relation with Trust and Social Influence because, most of people thing that in Vietnam banks lack of advanced technology to protect customer sensitive information avoid attacking by hacker or unauthorized access, and the Social Influence factor is more characteristic by Vietnamese culture than occupation.

Table 4.8 ANOVA comparison of research variables with occupations

Occupation	Perceived ease of use		Perceived usefulness		Trust		Government support		Social influence		Intention to use	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. deviation	Mean	Std. Deviation	Mean	Std. Deviation
Office clerk	3.86	0.957	4.09	0.867	3.75	0.864	3.56	0.798	3.37	0.967	3.86	0.799
Worker	3.80	0.746	4.32	0.634	4.10	0.688	4.07	0.799	3.91	0.735	3.90	0.801
Manager	3.92	0.712	4.16	0.599	3.26	0.728	3.27	0.955	2.85	0.818	4.20	0.587
Executive	4.01	0.810	4.29	0.707	3.61	0.736	3.48	0.920	3.19	1.019	4.01	0.834
Academic	3.74	0.871	4.09	0.769	3.65	0.745	3.40	0.717	3.24	0.785	4.00	0.719
Technician	3.94	0.698	4.24	0.663	3.74	0.644	3.80	0.814	3.33	0.864	3.95	0.678
Student	3.84	0.800	3.95	0.725	3.78	0.586	3.47	0.752	3.23	0.859	3.94	0.591
Others	2.54	1.144	3.59	0.917	3.70	0.865	3.59	0.993	3.16	0.484	3.23	1.089
F	5.108		2.177		1.585		2.428		1.985		2.178	
df	7		7		7		7		7		7	
p-value	0.000		0.036		0.139		0.020		0.057		0.036	

4.2.6 The difference between incomes toward research variables:

Table 4.9 shows the ANOVA results among incomes and research variables. There are significant differences between the mean of incomes and Perceived Ease of Use - PEU ($p=0.000$), Perceived Usefulness - PU ($p=0.009$), trust - T ($p=0.036$) and intention to use IB - IU ($p=0.006$). And there are no significant differences between groups that have difference incomes in choosing government support - GS ($p=0.133$), social influence - SI ($p=0.104$).

In Vietnam, people's income depend much on their education, people with high education usually have a good job with high salary. That why different income

groups look at the ease of use of IB and Trust differently. About Perceived Usefulness and Intention to Use, people with high income usually more often using banking services such as online transaction, transfer money or bill payment than people with low income. Therefore, there are significant differences between different income groups in relation with Perceived Usefulness and Intention to Use IB.

Government support for the development of IB is announced widely to the people and kept an independent relationship with people's income. Thus, income of respondent has a slight relationship with Government support factor. About Social Influence factor, it is strongly typical by Vietnamese culture than income. Consequently, there is no significant difference between different income groups in relation with Social Influence factor.

Table 4.9 ANOVA comparison of research variables with Incomes

Incomes	Perceived ease of use		Perceived usefulness		Trust		Government support		Social influence		Intention to use	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. deviation	Mean	Std. Deviation	Mean	Std. Deviation
Under \$200	3.64	0.854	4.02	0.670	3.86	0.601	3.70	0.817	3.47	0.828	3.85	0.657
\$200-\$300	3.75	0.796	4.11	0.661	3.76	0.683	3.52	0.723	3.28	0.833	3.92	0.627
\$300-\$500	3.73	1.037	3.86	0.989	3.45	0.822	3.35	0.885	3.10	0.781	3.73	0.931
\$500-\$700	3.94	0.937	4.21	0.927	3.73	0.881	3.51	0.997	3.08	1.25	3.97	1.011
Over \$700	4.41	0.580	4.42	0.628	3.68	0.778	3.70	0.798	3.32	0.851	4.31	0.611
F	5.947		3.415		2.609		1.778		1.904		3.697	
df	4		4		4		4		4		4	



p-value	0.000	0.009	0.036	0.133	0.104	0.006
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4.2.7 The difference between experiences of using internet toward research variables:

Table 4.10 shows relationship between experiences of using internet and research variables by using ANOVA test. There are significant differences between difference experiences of using internet groups and Perceived Ease of Use - PEU ($p=0.000$), Trust - T ($p=0.021$), Government Support - GS ($p=0.04$), Social Influence - SI ($p=0.01$). And there are no significant differences between groups that have difference experiences of using internet in choosing Perceived Usefulness - PU ($p=0.068$), Intention to Use - IU ($p=0.051$).

People with more experience of using internet will be probably using IB easier, and this explains for the significant difference between different experienced using Internet groups. People are more familiar with Internet also have more advantages and easier to contact with new technology, government policy and advanced knowledge. Thus, they will look at Trust, Government Support and Social Influence factors different with people who are not familiar with using Internet.

Perceived Usefulness of using IB is very clearly, it does not require much experience of using Internet to recognize the usefulness of using IB. Therefore, respondent's experience of using IB has a little relationship with Perceived Usefulness of using IB of respondent. With Intention to Use, it does not mean that people with more experience of using Internet will be likelihood using IB and vice versa. That why there is no significant difference between different experience of using Internet groups in relation with Intention to Use IB factor.



Table 4.10 ANOVA comparison of research variables with experiences of using internet

Experience of using internet	Perceived ease of use		Perceived usefulness		Trust		Government support		Social influence		Intention to use	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. deviation	Mean	Std. Deviation	Mean	Std. Deviation
Never or less than 1 month	2.93	1.086	3.87	0.671	3.78	0.501	3.96	0.773	3.33	0.749	3.50	0.754
1-6 months	2.53	0.505	3.40	0.720	3.60	0.365	3.43	0.375	3.26	0.494	3.60	0.722
6 months - 3 years	3.90	0.661	4.22	0.638	4.02	0.563	3.86	0.685	3.77	0.784	4.01	0.601
Over 3 years	3.87	0.848	4.09	0.775	3.67	0.749	3.48	0.826	3.20	0.876	3.94	0.754
F	11.344		2.402		3.293		4.452		5.491		2.622	
df	3		3		3		3		3		3	
p-value	0.000		0.068		0.021		0.04		0.01		0.51	

4.3 Multiple Regression Analysis

From research framework, it is essential to conduct a multiple regression analysis to test hypotheses in the current study.

On this regression analysis, intention to use IB is dependent variable, regressed on perceived usefulness, perceived ease of use, trust, government support, and social influence as independent variables. The detail of this regression output was shown in table 4.11.

Histogram and Normal P-P plot of standardize residual that were conducted also point out normality of the error term while scatter plot put on view consistent variance of error terms (Homoscedasticity). From these analyses, we can conclude

that this multiple regression model of this study meets the requirement assumptions to ensure validity of its significance test (Hair et al., 2005). Cohen's rules for effects size were applied to specify the magnitude of effects in this regression analysis. According to Cohen (1990, p. 1309) as cited by Chong et al (2010), R^2 ranges from 1.0 percent to 5.9 percent is considered as small, between 5.9 percent to 13.8 percent is medium and above 13.8 percent is large.

From Table 4.11, the R^2 was 0.569, it means that 56,9% of customer's intention to use internet banking can be explained by the five independent variables (PEU, PU, T, GS, SI). Thus the effect size for this study is large. With the F-statistic = 78.987 and p-value = 0.000, the proposed model was adequate and significant at the 1 percent level ($p < 0.01$). This implies that the overall model was reasonable fit and there was statistically significant relationship between independent variables (PEU, PU, T, GS, SI) and consumer's intention to use IB. The individual model variables reveals that perceived usefulness ($\beta = 0.404$, $p = 0.000$), perceived ease of use ($\beta = 0.572$, $p = 0.000$), trust ($\beta = 0.209$, $p = 0.000$), government support ($\beta = 0.154$, $p = 0.000$) and social influence ($\beta = 0.089$, $p = 0.020$) were found to have a significant and positive impact on customer's trust in IB. Therefore, the hypotheses H1, H2, H3, H4 and H5 were supported.

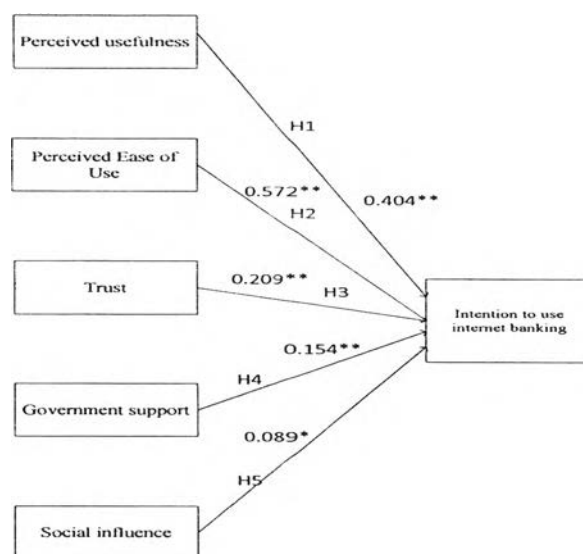
Table 4.11: Regression analysis of adoption factors for internet banking users on intention to use internet banking

	B	Std. Error	β	P	Tolerance	VIF
(Constant)	0.009	0.038		0.816		
Perceived usefulness	0.402	0.038	0.404	0.000	1.000	1.000
Perceived ease of use	0.569	0.038	0.572	0.000	0.999	1.001
Trust	0.210	0.038	0.209	0.000	0.998	1.002

Government support	0.155	0.038	0.154	0.000	0.998	1.002
Social influence	0.090	0.039	0.089	0.020	0.998	1.002
R	0.754					
R ²	0.569					
F-statistic	78.987					
<i>p</i>	<0.001					
Adjusted R ²	0.562					
N	305					

All relationships are significant. Almost all the values of standardized coefficients are significant with $p < 0.001$. It means that all of the relationships between constructs of the framework in the study are positive influences. Figure 4.1 provides a clearer understanding of the relationships among the relevant constructs.





Note: *: P-value < 0.05; **: P-value < 0.01

Figure 4.1 The relationships between sub-constructs

Results of all hypotheses can be summarized like the table 4.16

Table 4.16 The result of hypotheses testing

	Hypotheses	Decision
H1	Perceived usefulness has a positive impact on intention to use IB	Accepted
H2	Perceived ease of use has a positive impact on intention to use IB	Accepted
H3	Trust has a positive impact on intention to use IB	Accepted
H4	Government support has a positive impact on intention to use IB	Accepted
H5	Social influence has a positive impact on intention to use IB	Accepted

