

A Study on the Influence of Personality Traits (BIG-5) on Trust and Behavioral Intention of Mobile Convenient Payment Service

Ki-Ho Kim¹, Yen-Yoo You^{1*} and Sung-Joon Baek²

¹Department of Knowledge Service and Consulting, Hansung University, Seoul, Korea;
ilovedu2000@gmail.com, threedy0181@hansung.ac.kr

²Department of Economic and Real Estate, Hansung University, Seoul, Korea;
sjiyly@hansung.ac.kr

Abstract

Objectives: This study is intended to verify the correlation between behavioral intention and trust of mobile convenient payment service as well as personality traits of individuals when they use the service applied with new technology and to clarify how each factor of BIG-5 personality traits influences on them. **Methods/Statistical Analysis:** This study is intended to identify the correlation between personality and gender and also between the behavioral intention of mobile convenient payment service and trust on service from personality. Afterwards, it is to verify a mediating effect of trust on service in the correlation between personality and behavioral intention of mobile convenient payment service. **Findings:** This study has verified whether there was a difference of personality traits of individuals depending on the gender. As a result, it was confirmed that neuroticism and extraversion turned out to be higher among women than men in the statistically significant level. Afterwards, this study has verified the correlation between personality traits of individuals and behavioral intention of mobile convenient payment service and clarified that conscientiousness and neuroticism were positively related with each other. This was against the general view that neuroticism might be negatively related with acceptance of new service. Therefore, this study was very meaningful to prove that the higher the neuroticism was among users, the more they resisted continuing to use traditional payment media, and the more they preferred to accept mobile convenient payment service. **Improvements/Applications:** When considering the correlation between gender and personality, women turned out to have a higher level of neuroticism than men, and neuroticism positively influenced on behavioral intention of mobile convenient payment service. Therefore, it is expected for them to be usefully utilized in the practical work.

Keywords: Behavioral Intention, BIG-5, Fin-Tech, Mobile Payment, Trust, UTAUT

1. Introduction

With recent promoted distribution of smart phone, innovation in financial service has been very actively achieved in the use of smart phone. Emergence of a new term, Fintech, connoted such phenomena. Financial Services Commission in Korea has defined Fintech as an integration of finance and technology, in other words;

a phenomenon where financial service or non-financial service based on IT including mobile payment or wire-transfer utilizes new technology for providing financial service¹. According to the report from UKTI, Fintech is defined as a term combined with finance and technology. Business areas in representation of Fintech are classified into platform, financial data analysis, financial software, and wire-transfer payment². Hereupon, Fintech is a term

*Author for correspondence

comprehensively indicating the wide range of service integrated with finance and technology. Among various fields related to Fintech, business areas such as mobile convenient payment service, Internet bank, or cloud funding service have been the most recently developed. Among these services, mobile convenient payment service, a topic in this study, is classified into online and offline service depending on the service areas. Online service is that consumers make a payment via Internet or smart phone when purchasing products. Online service includes small amount payment with cell phone, Paypal, Alipay, and Kakaopay. Offline service is that consumers make a payment via mobile devices including smart phone instead of cash or credit card after purchasing products from offline. Samsung Pay or Apple Pay is of an example.

Emergence and development of Fintech have been changing habits and behaviors of individuals as well as norms and policies in society. For example, certificate was required if paying for an amount of more than US\$250 online in Korea until regulations about them were abolished in May, 2014. This regulation was enforced as of May, 2005. However, it was abolished 9 years after it was enforced upon emergence of Fintech. Furthermore, Korean government has released measures for convenient payment on electronic transactions in July, 2014, promising to provide institutional support for convenient payment service to be expanded³.

Innovative service integrated with new technology such as mobile convenient payment service is providing more useful benefits to users compared to the previous traditional service. However, since innovation always requires changes on service users, they tend to cause resistance among users even though it is positive and useful^{4,5}. A degree of resistance of users against innovation differs depending on the attitude of users on the innovation. This means that behavioral intention of mobile convenient payment service differs according to personality traits of service users.

In addition, convenient payment service is a field of financial service. Therefore, trust of service is very important. Mayer et al. indicated that trust was an important factor for deriving particular behaviors including the purchase of product and was also intention or belief of individuals. In addition, they insisted that preference, ability, and reciprocity influenced on the will of trust^{6,7}. This means that personality traits of individuals are highly related with trust on the service.

On the other hand, personality is of unique feature that is differentiated from others and is also of a comprehensive concept for meaning the entire psychological system of individuals⁸. McCrae and Costa insisted that personality of humans could be classified into five traits; openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. These five characteristics were organized as BIG-5⁹. BIG-5 personality trait model has been verified by many of the researches up to now and also used the most among various personality models.

This study is intended to verify the correlation between behavioral intention and trust of mobile convenient payment service as well as personality traits of individuals when they use the service applied with new technology and to clarify how each factor of BIG-5 personality traits influences on them. In addition, the goal of this study is to verify and discuss variables that are theoretically applied on personality traits and behavioral intention of service and provide implications on the policies and practice in the marketing perspective of companies that intend to provide new services.

2. Theoretical Background

2.1 BIG-5 Personality Model

Personality indicates the entire impression differentiated from others and is a unique behavioral mode and way of thinking of individuals that are consistent in a course of adjusting in the environment¹⁰. Many of the scholars were intellectually curious about characteristics of these personality traits. As a result, many theories or models related to characteristics of personality traits were suggested. Especially, BIG-5 personality traits modes classified into five elements; extraversion, agreeableness, openness to experience, conscientiousness, and neuroticism have been in a limelight as a highly explanatory model over other theories or models¹¹.

McCrae and Costa have verified that theories from previous studies in dealing with personality traits could be classified into five factors¹². Costa and McCrae have found five common factors from personality examination according to joint factor analysis manufactured based on various personality-related and psychological theories insisted that five common personality traits; extraversion, agreeableness, openness to experience, conscientiousness, and neuroticism existed among people¹³. Extraversion is a factor related to active interaction with others¹¹ and

agreeableness is related to harmonious maintenance of relationship with others¹⁴. Conscientiousness is a factor about following the social norms¹⁴, and neuroticism was a factor related to negative emotions¹⁵. Openness is defined as a variable about a degree of maintaining open attitude on newness¹⁵.

2.2 Mobile Convenient Payment

Mobile convenient payment service is one of the representative Fintech services as a compound word of finance and technology. In¹⁶ defined mobile convenient payment as a settlement behavior in the use of devices such as smart phone or tablet PC¹⁶. And the mobile convenient payment service as a settlement through authentication of password from mobile payment devices. In reference of aforementioned previous studies, mobile convenient payment service is defined 'as a service that payment is made only by a simple verification such as password when settling after registering credit card information, bank account information, or other payment options on the mobile devices such as smart phone.' In foreign countries, convenient payment service has been used since the early 2000s. Especially, it has been developed as third-party online payment where a third party receives and confirms products on behalf of purchaser and makes a payment to supplier such as Paypal or Alipay^{5,17}.

In¹⁸ have explained a course of accepting new service by confirming the attitude on new payment system among users who previously used cash^{5,18}. In¹⁹ have used perceived threat to confirm the attitude on online purchase. These studies insisted that there has been a concern on various types of threat emerged when people started involving in online shopping activities or transactions as Internet was expanded¹⁹. This study is intended to clarify how personality traits of individuals influence on the behavioral intention of new service in the name of mobile convenient payment service.

2.3 Trusts on Service

Trust has long been researched in various fields. However, the concept of it has not been completely established. In²⁰ have insisted that trust was an expectation in exchange from interaction, and expectation was an inevitable factor in achieving the cooperation²⁰. In²¹ has focused on relationship between trust and threat defining trust as 'expectation or belief that there was a

high possibility for relied parties to conduct profitable or, at least, non-harming behaviors. In²¹ has insisted that there was a small difference on trust if personality types of students and instructors were same and vice versa if their personality types were different through the study in dealing with trust of students and instructors from personality types²². On the other hand, Jarvenpaa Tractinsky (1999) practically verified the importance of trust for accepting electronic commercial transactions²³. In²⁴ has suggested a result of research that usefulness recognized as a core variable of technology acceptance model, convenience of perceived usage, and trust influenced on the behavioral intention of Internet shopping mall²⁴. This study is intended to clarify correlation between personality of individuals and trust on the service and also whether trust serves as a mediating role in the relationship between personality of individuals and behavioral intention of new service.

3. Research Model and Hypotheses

3.1 Research Model

Research model has been designed according to aforementioned theoretical design and is schematized as follows (Figure 1).

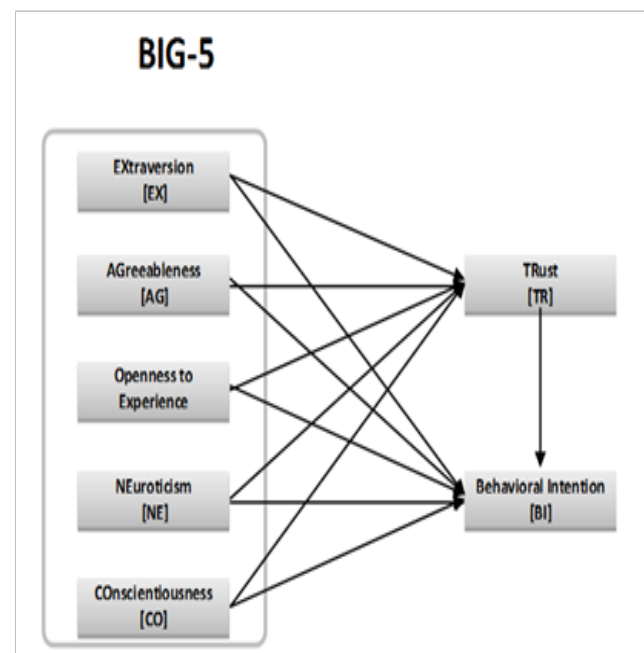


Figure 1. Research model.

3.2 Operational Definition of Variables

Operational definition of variables used in this study is as follows (Table 1):

Table 1. Operational definitions.

Variables	Operational definitions	Researchers
Extraversion	A factor related to active interaction with others	11
Agreeableness	A factor related to harmonious maintenance of relationship with others	14
Conscientiousness	A factor about following the social norms	14
Neuroticism	A factor related to negative emotions.	15
Openness to Experience	A variable about a degree of maintaining open attitude on newness	15
Trust	Expectation or belief that there was a high possibility for relied parties to conduct profitable or, at least, non-harming behaviors	16
Behavioral Intention	The degree to which an individual intends to use mobile convenient payment	25,25,25

3.3 Research Hypotheses

This study is intended to identify the correlation between personality and gender and also between the behavioral intention of mobile convenient payment service and trust on service from personality. Afterwards, it is to verify a mediating effect of trust on service in the correlation between personality and behavioral intention of mobile convenient payment service. Following hypotheses are

established according to aforementioned objective of the study.

H1: There might be a difference on personality traits of individuals according to gender.

H1-1: There might be a difference in extraversion according to gender.

H1-2: There might be a difference in agreeableness according to gender.

H1-3: There might be a difference in openness to experience according to gender.

H1-4: There might be a difference in conscientiousness according to gender.

H1-5: There might be a difference in neuroticism according to gender.

H2: Among personality traits of individuals, extraversion, agreeableness, openness, neuroticism, and conscientiousness might influence on trust of mobile convenient payment service.

H2-1: Extraversion might positively influence on trust of mobile convenient payment service.

H2-2: Agreeableness might positively influence on trust of mobile convenient payment service.

H2-3: Openness to experience might positively influence on trust of mobile convenient payment service.

H2-4: Conscientiousness might positively influence on trust of mobile convenient payment service.

H2-5: Neuroticism might negatively influence on trust of mobile convenient payment service.

H3: Among personality traits of individuals, extraversion, agreeableness, openness, neuroticism, and Conscientiousness might influence on behavioral intention of mobile convenient payment business service.

H3-1: Extraversion might positively influence on behavioral intention of mobile convenient payment service.

H3-2: Agreeableness might positively influence on behavioral intention of mobile convenient payment service.

H3-3: Openness to experience might positively influence on behavioral intention of mobile convenient payment Service.

H3-4: Conscientiousness might positively influence on behavioral intention of mobile convenient payment Service.

H3-5: Neuroticism might positively influence on behavioral intention of mobile convenient payment service

H4-6: Trust on mobile convenient payment service might mediate personality of individuals and behavioral intention of convenient payment service.

4. Results of Study

4.1 Investigation Methods and Demographic Information

Verification has been implemented through survey according to aforementioned theoretical background, research model, and research hypotheses.

Survey has been conducted through face-to-face interview, e-mail, and smart phone messenger. As for population in research, 250 people were randomly selected among those with an interest in mobile convenient payment service or experience with service prior to conducting a survey. Survey has been conducted for 2 months from May 1st to June 30th, 2016. Total 250 copies of paper were distributed, and 219 copies among them were collected. Among them, 12 copies with incomplete responses were excluded that 207 copies were used for final analysis. Demographic characteristics of participants are as follows in Table 2.

Table 2. Demographic of respondents.

Index		Frequency	Percentage (%)
Sex	Male	123	59.4
	Female	84	40.6
Age	-20	5	2.4
	20-29	82	39.6
	30-39	74	35.7
	40-49	26	12.6
	50-59	17	8.2
	60-69	3	1.4
Educational Background	High school or less	22	10.6
	2~3 year College	23	11.1
	4-year College	138	66.7
	Master and Doctor	24	11.6

4.2 Reliability and Validity Analysis

Exploratory factor analysis has been conducted for validity and reliability of BIG-5 personality traits, trust, and behavioral intention used in this study. Principle Component Analysis has been used for all the measuring variables to extract components, and

Varimax was selected to simplify factor loading. In the field of social science, variables with Eigen Value of 1.0 or above and factor loading of 0.40 or above are generally regarded to be significant. If their factor loading is greater than 0.50, they are regarded as a very important variable. In addition, as previous studies indicated that appropriateness of KMO sample of 0.7 or above was regarded to be desirable. Therefore, this study has followed aforementioned criteria with Eigen value of 1.0 or above, factor loading or 0.40 or above, and KMO of 0.7 or above. Table 3 represents results of factor analysis on personality factors and reliability.

Total explained variance was 67.5%, while 6 factors were extracted in the same manner with previous studies. Extracted factors were named as extraversion, agreeableness, and openness to experience, neuroticism, conscientiousness, and reliability. Among them, OE number 5 was removed as it was not appropriate in theoretical structure. Extraversion and agreeableness used all 5 questions from each category, and neuroticism and conscientiousness used all 4 questions from each category. However, openness to experience used only 6 questions out of 7 questions after excluding the question number 5. Table 4 represents the result of factor analysis on behavioral intention and conscientiousness. Total explained variance of them turned out to be 73.2%. These variables have been extracted with 2 factors in the same manner with previous studies. Extracted factors were named as TR and BI. Both BI and TR used all 4 questions from each category.

4.3 Correlation Analysis among Variables in the Study

Table 5 represents the result of analysis for correlation by using Pearson product-moment correlation coefficient among variables.

4.4 Verification of Research Model

4.4.1 Verification of Correlation between Personality Factors and Gender

In order to verify influential relationship of personality traits on the gender, T-test was conducted. Results of the analysis are shown in Table 6.

Table 3. Factorial analysis and reliability analysis for BIG-5 and trust.

Index		Extraversion	Openness to Experience	Agreeableness	Neuroticism	Conscientiousness	Trust	Communality
BIG-5	EX3	.84						0.78
	EX4	.82						0.75
	EX1	.80						0.76
	EX5	.78						0.66
	EX2	.74						0.64
	EX2		.80					0.70
	OE1		.78					0.70
	OE4		.76					0.66
	OE7		.73					0.66
	OE3		.65					0.65
	OE6		.62					0.51
	AG3			.76				0.74
	AG2			.74				0.76
	AG1			.72				0.68
	AG4			.71				0.71
	AG5			.71				0.64
	NE3				.86			0.80
	NE4				.82			0.73
	NE2				.81			0.69
	NE1				.72			0.70
	CO4					.79		0.69
	CO3					.64		0.60
	CO2					.62		0.56
	CO1					.60		0.59
TR	TR3						.85	0.76
	TR1						.77	0.63
	TR2						.75	0.59
	TR4						.67	0.57
Eigenvalue		4.13	3.61	3.46	2.71	2.45	2.54	
Variance (%)		14.76	12.91	12.36	9.68	8.74	9.06	
Cronbah Alpha		0.90	0.86	0.89	0.83	0.75	0.78	
Kaiser-Meyer-Olkin		0.86						

Table 4. Factorial analysis and reliability analysis for trust and behavioral intention.

Index	Behavioral Intention	TRust	Communality
BI2	.907	.288	0.91
BI3	.906	.262	0.89
BI1	.905	.211	0.86
BI4	.840	.185	0.74
TR3	.241	.812	0.72
TR1	.140	.794	0.65
TR4	.163	.721	0.55
TR2	.278	.682	0.54
Eigen value	3.35	2.51	
Variance (%)	41.87	31.32	
Cronbah Alpha	0.94	0.83	
Kaiser-Meyer-Olkin	0.86		

Table 5. Correlation Analysis.

Index		Extraver- sion	Agreeable- ness	Openness to Experience	Conscientious- ness	Neuroticism	Trust	Behavioral Intention
Extraversion	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	207						
Agreeableness	Pearson Correlation	.569**	1					
	Sig. (2-tailed)	.000						
	N	207	207					
Openness to Experience	Pearson Correlation	.377**	.422**	1				
	Sig. (2-tailed)	.000	.000					
	N	207	207	207				
Conscientious- ness	Pearson Correlation	.329**	.565**	.441**	1			
	Sig. (2-tailed)	.000	.000	.000				
	N	207	207	207	207			
Neuroticism	Pearson Correlation	-.072	-.064	-.019	-.139*	1		
	Sig. (2-tailed)	.305	.360	.781	.046			
	N	207	207	207	207	207		
Trust	Pearson Correlation	.159*	.326**	.263**	.227**	-.149*	1	
	Sig. (2-tailed)	.022	.000	.000	.001	.032		
	N	207	207	207	207	207	207	
Behavioral Intention	Pearson Correlation	.153*	.265**	.202**	.352**	.094	.498**	1
	Sig. (2-tailed)	.028	.000	.004	.000	.178	.000	
	N	207	207	207	207	207	207	207

** Significant at 1% level of significance (2-tailed); * Significant at 5% level of significance (2-tailed).

Table 6. Verification of correlation between personality factors and gender.

Index		Frequ- ency	Mean	Std. Var.	t	p
Extra- version	Male	123	4.41	1.18	-2.109	.036*
	Female	84	4.78	1.31		
Agree- ableness	Male	123	4.76	1.10	-.619	.537
	Female	84	4.86	1.13		
Open-ness to Experi- ence	Male	123	4.78	1.05	1.781	.076
	Female	84	4.51	1.16		
Conscien- tiousness	Male	123	5.28	1.01	1.622	.106
	Female	84	5.05	.97		
Neuro- ticism	Male	123	4.09	1.22	-2.779	.006*
	Female	84	4.59	1.33		

*, $p < .05$

According to Table 6, there was a significant difference on extraversion and neuroticism according to gender. To be specific, extraversion and neuroticism turned out to be high among male participants than female participants. On the other hand, agreeableness, openness to experience, and conscientiousness turned out not to be related to gender.

4.5 Verification of Influence of Personality Traits of Individuals on the Behavioral Intention of Convenient Payment Service

Results of verifying the hypothesis that personality factors of individuals might influence on acceptance intention of mobile convenient payment service are as follows.

Table 7, conscientiousness ($t=3.731$) and neuroticism ($t=2.173$) among personality traits of individuals turned out to positively influence on behavioral intention of mobile convenient payment service in the statistically significant level. F-value turned out to be 7.168 in $p=.000$. R^2 was .15, and Durbin-Watson turned out to be 1.769. Therefore, regression model turned out to be appropriate.

4.6 Verification of Influence of Personality Traits of Individuals on Trust of Convenient Payment Service

Results of verifying the hypothesis that personality traits of individuals might influence on trust of mobile convenient payment service are as follows.

Agreeableness and openness to experience among personality traits of individuals turned out to positively influence on mobile convenient payment service in the statistically significant level (Table 8). Neuroticism turned out to negatively influence on them. F-value was 6.874 in $p=.000$. R^2 was .146, and Durbin-Watson turned out to be 1.875. Therefore, regression model turned out to be appropriate.

4.7 Verification of a Mediating Role of Trust in the Influence of Personality Traits of Individuals on behavioral Intention of Convenient Payment Service

In order to verify the hypothesis that trust of service might serve as a mediating role in the influential relationship of personality traits of individuals on behavioral intention of convenient payment service, mediation regression analysis was conducted. Results of the analysis were suggested in the Table 9 as follows.

To be specific, extraversion ($\beta = -.79$) and conscientiousness ($\beta = -.007$) among personality traits of individuals in the 1st stage turned out not to influence on trust. Agreeableness ($\beta = .295$), openness to experience ($\beta = .168$), and neuroticism ($\beta = -.134$) turned out to statistically and significantly influence on trust. In the 2nd stage, conscientiousness ($\beta = .308$) and neuroticism ($\beta = .143$) turned out to statistically and significantly influence on trust. However, since conscientiousness was not valid in the 1st stage, only neuroticism was preceded for verification in the 3rd stage. Lastly, trust ($\beta = .483$) as a parameter turned out to be influential in the significance level of 99%. Therefore, it turned out to satisfy conditions in the 3rd stage. However, β value of neuroticism was higher in the 3rd stage ($\beta = .207$) than in the 2nd stage ($\beta = .143$). Therefore, significance of the mediator effect was not verified. Hereupon, hypothesis that trust on service might serve as a mediating role in the relationship between personality traits of individuals and behavioral intention of mobile convenient payment service was dismissed.

4.8 Verification of Hypotheses

Results of verifying each of the hypotheses are given in Table 10.

Table 7. Verification of influence of personality traits of individuals on the behavioral intention.

Index	B	Std E	β	t	p	Tolerance	VIF
(Constant)	1.666	.667		2.497	.013		
Extraversion	.001	.092	.001	.010	.992	.650	1.538
Agreeableness	.111	.117	.087	.950	.343	.508	1.967
Openness to Experience	.041	.098	.032	.421	.674	.733	1.365
Conscientiousness	.440	.118	.308	3.731	.000**	.619	1.616
Neuroticism	.159	.073	.143	2.173	.031*	.976	1.025

R2= .151 Adjusted R2= .130 F= 7.168 p = .000 Durbin-Watson = 2.015; *.p<.05, **.p<.01

Table 8. Verification of influence of personality traits of individuals on trust.

Index	B	Std E	β	t	p	Tolerance	VIF
(Constant)	3.420	.521		6.559	.000		
Extraversion	-.071	.072	-.079	-.981	.328	.650	1.538
Agreeableness	.295	.091	.295	3.227	.001**	.508	1.967
Openness to Experience	.170	.077	.168	2.210	.028*	.733	1.365
Conscientiousness	-.007	.092	-.007	-.080	.936	.619	1.616
Neuroticism	-.116	.057	-.134	-2.024	.044*	.976	1.025

R2= .146 Adjusted R2= .125 F= 6.874 Sig= .000 Durbin-Watson = 1.875; *.p<.05, **.p<.01

Table 9. Verification of a mediating role of trust in the influence of personality traits of individuals on behavioral intention.

		Step 1		Step 2		Step 3		Tolerance
	Index	Trust		Behavioral Intention		Behavioral Intention		
		B	β	B	β	B	β	
B I G 5	(Constant)	3.420		1.666		-.455		
	Extraversion	-.071	-.079	.001	.001	.045	.039	.647
	Agreeableness	.295	.295**	.111	.087	-.072	-.056	.483
	Openness to Experience	.170	.168*	.041	.032	-.064	-.049	.715
	Conscientiousness	-.007	-.007	.440	.308*	.444	.311*	.619
	Neuroticism	-.116	-.134*	.159	.143*	.231	.207**	.956
Trust						.620	.483**	.854
R2		.146		.151		.351		
Adjusted R2		.125		.130		.331		
F		6.874		7.168		17.999		

*,p<.05, **,p<.01

Table 10. Verification of hypotheses.

Hypotheses	Results
H1: There might be a difference on personality traits of individuals according to gender. H1-1: There might be a difference in extraversion according to gender. H1-2: There might be a difference in agreeableness according to gender. H1-3: There might be a difference in openness to experience according to gender.. H1-4: There might be a difference in conscientiousness according to gender. H1-5: There might be a difference in neuroticism according to gender.	Supported Not Supported Not Supported Not Supported Supported
H2: Among personality traits of individuals, extraversion, agreeableness, openness, neuroticism, and conscientiousness might influence on trust of mobile convenient Payment service. H2-1: Extraversion might positively influence on trust of Mobile convenient payment service. H2-2: Agreeableness might positively influence on trust of Mobile convenient payment service.. H2-3: Openness to experience might positively influence on trust of Mobile convenient payment service. H2-4: Conscientiousness might positively influence on trust of Mobile convenient payment service. H2-5: Neuroticism might negatively influence on trust of Mobile convenient payment service.	Not Supported Supported Supported Not Supported Supported
H3: Among personality traits of individuals, extraversion, agreeableness, openness, neuroticism, and conscientiousness might influence on behavioral intention of mobile convenient payment business service. H3-1: Extraversion might positively influence on behavioral intention of Mobile convenient payment service. H3-2: Agreeableness might positively influence on behavioral intention of Mobile convenient payment service. H3-3: Openness to experience might positively influence on behavioral intention of Mobile convenient payment service. H3-4: Conscientiousness might positively influence on behavioral intention of Mobile convenient payment service. H3-5: Neuroticism might positively influence on behavioral intention of Mobile convenient payment service.	Not Supported Not Supported Not Supported Supported Supported
H4 : Trust on mobile convenient payment service might mediate personality of individuals and behavioral intention of mobile convenient payment service	Not Supported

5. Conclusion

Before smart phone has become popular, non-contacting transportation card service was one of the most convenient services that had been widely utilized when using public transportation such as bus or subway²⁵. However, online environment in the representation of Internet and mobile has become a core medium of convenient payment service in replacement of non-contacting public transportation card.

This study has clarified how personality of individuals was applied when consumers accepted mobile convenient payment service. Hereupon, this study has verified whether there was a difference of personality traits of individuals depending on the gender. As a result, it was confirmed that neuroticism and extraversion turned out to be higher among women than men in the statistically significant level.

Afterwards, this study has verified the correlation between personality traits of individuals and behavioral intention of mobile convenient payment service and clarified that conscientiousness and neuroticism were positively related with each other. This was against the general view that neuroticism might be negatively related with acceptance of new service. Therefore, this study was very meaningful to prove that the higher the neuroticism was among users, the more they resisted continuing to use traditional payment media, and the more they preferred to accept mobile convenient payment service. In addition, when considering the aforementioned correlation between gender and personality, women turned out to have a higher level of neuroticism than men, and neuroticism positively influenced on behavioral intention of mobile convenient payment service. Therefore, it is expected for them to be usefully utilized in the practical work.

In addition, this study has confirmed that agreeableness and openness to experience were positively correlated according to the verification between personality traits of individuals and trust on mobile convenient payment service and also that neuroticism was negatively correlated with them. However, it was proved that trust on mobile convenient payment service had no mediating effect in the relationship between personality traits of individuals and behavioral intention of mobile convenient payment service. This makes it feasible to expect that there might be more important factors than trust for users to accept mobile convenient payment.

5.1 Limitations of this Study

Limitations of this study are as follows: First of all, it was assumed that trust on service might mediate the relationship between personality traits of individuals and behavioral intention of mobile convenient payment service. However, different results were derived from many of the previous studies. There is a need to precede a follow-up research whether such results were from characteristics of mobile convenient payment service or from other factors. Secondly, the distribution of gender was comprised of about 60% of men and about 40% of women. Therefore, there was a difference from the real population distribution. Follow-up study is recommended to complement this issue.

6. Acknowledgment

This research was financially supported by Hansung University.

7. References

1. IT Finance Integration Support Plan, Financial Services Commission of Korea: Korea, 2015.
2. Fintech: The UK's Unique Environment for Growth. Date Accessed: 2014. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/428647/UKTI_Fintech_capability_V2.pdf.
3. The Ways to Promote the E-Commerce Payment Methods Unified Government Division: Korea, 2014.
4. Rogers EM. Diffusion of Innovations, 6th Edition, Free Press: New York, 1983.
5. Kang SH. A Study on the User's Acceptance and Use of Easy Payment Service Based on UTAUT, A Doctor Degree Dissertation, Pukyong National University: Korea, 2016.
6. Mayer RC, Davis JH, Schoorman FD. An Integrative Model of Organizational Trust, *Academy of Management Review*. 1995; 20(3):709–34.
7. LIM CH. A Study on Influence Factors of the User's Intention in Electronic Financial Transaction, A Doctor Degree Dissertation, Soongsil University: Korea, 2012.
8. Goldberg LR. Language and Individual Differences, *Review of Personality and Social Psychology*. 1981; 2(1):141–65.
9. McCrae RR, Costa PT. Validation of the Five-Factor Model of Personality across Instruments and Observers, *Journal of Personality and Social Psychology*. 1987; 52(1):81–90.
10. Sampson RJ, Groves WB. Community Structure and Crime: Testing Social-Disorganization Theory, *American Journal of Sociology*. 1989; 94(4):774–802.
11. Goldberg LR. An Alternative Description of Personality: The Big-Five Factor Structure, *Journal of Personality and Social Psychology*. 1989; 59(6):1216–19.
12. McCrae RR, Costa PT. Updating Norman's Adequacy Taxonomy: Intelligence and Personality Dimensions in Natural Language and in Questionnaires, *Journal of Personality and Social Psychology*. 1985; 49(3):710–21.
13. Costa PT, MacCrae RR. Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO FFI): Professional Manual Psychological Assessment Resources, 1992.
14. Costa PT, McCrae RR, Dye DA. Facet scales for Agreeableness and Conscientiousness: A Revision of the NEO Personality Inventory, *Personality and Individual Differences*. 1991; 12(9):887–98.
15. Costa PT, McCrae RR. Four Ways Five Factors are Basic, *Personality and Individual Differences*. 1992; 13(6):653–65.
16. Lee DY. A Study on Determinants for Invigorate use of Mobile Payment Service, A Master Degree Dissertation, Han Sung University: Korea, 2013.
17. Zhao X, Sun Y. A Study of Third-Party Online Payment: Risk Control and Supervision Analysis, The Eleventh Wuhan International Conference on E-Business, 2012, p. 210–16.
18. Szmigin I, Foxall G. Three Forms of Innovation Resistance: The Case of Retail Payment Methods, *Technovation*. 1998; 18(6):459–68.
19. Van der Heijden H, Verhagen T, Creemers M. Understanding Online Purchase Intentions: Contributions from Technology and Trust Perspectives, *European Journal of Information Systems*. 2003; 12(1):41–48.
20. Carnevale PJ, Pruitt DG, Carrington PI. Effects of Future Dependence, Liking, and Repeated Requests for Help on Helping Behavior, *Social Psychology Quarterly*. 1982; 45(1):9–14.
21. Lee KH. Character Trait on Organizational Effectiveness: Focusing on the Moderating Effect of Trust. A Master Degree Dissertation, Dankook University: Korea, 2012.

22. Sohn SH. A Study on the Effects of Student's Personality on the Interpersonal Trust between Students and Teachers, A Master Degree Dissertation, Yonsei University: Korea, 2007.
23. Jarvenpaa SL, Tractinsky N, Saarinen L. Consumer Trust in an Internet Store: A Cross-Cultural Validation, *Journal of Computer-Mediated Communication*. 1999; 5(2). DOI: 10.1111/j.1083-6101.1999.tb00337.x
24. Gefen D, Karahanna E, Straub DW. Trust and TAM in Online Shopping: An Integrated Model. *MIS Quarterly*. 2003; 27(1):51–90.
25. Kim KH, You YY, Lee SK. A Study on the Ways to Promote Off-Line Electronic Micro-Payment using Transportation Cards: Focusing on the Analysis of Strategic Cooperation Model using Game Theory, *Indian Journal of Science and Technology*. 2016; 9(24):1–7.