



Factors affecting credit access of individual business households in Vietnam

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Abstract

In current conditions, access to official credit and the role of official credit institutions are critical in promptly supplementing business capital, ensuring the process of Production, business activities and services are developed continuously and sustainably. Different from the view of business households in the world, an individual business household in Vietnam is understood as an individual or a group of people registering to do business in a specific field on a small scale, with a single registration process simple and having only one definite place of business. Combined with the research context in Vietnam, the author has proposed a number of factors affecting credit access of individual business households in Vietnam, including the following 8 factors: (1) Collateral, (2) Income, (3) Business experience of household head, (4) Geographical distance, (5) Loan interest rate, (6) Loan procedure, (7) and Experience of commercial banking, Formal quantitative research was conducted on a sample size of 526 individual business households. The values of the scale are analyzed using the following methods: Cronbach's Alpha, EFA, CFA and SEM to test the model's research hypotheses.

Keywords: Individual business households, credit, choice behaviour, Vietnam

Introduction

From a banking perspective, the household is considered a term used in the provision of credit capital to households for the general economic purposes of the whole household. Currently, in legal documents in Vietnam, an individual business household is considered a subject in civil relations prescribed by law and is defined as a unit whose members have household registration. Common, common assets and common economic activities. Some other terms used to replace this term are "household", "production household", and "household". From a statistical standpoint, Campbell (2006) [5] gives the definition: Households are people who live under the same roof, eat together and have the same budget.

Besides, Godoy and colleagues (1997) [14] view households from an anthropological perspective as follows: Households are people who share the same bloodline and have close relationships with each other in the process of creating products for the conservation of themselves and the community. From the perspective of income, the authors have introduced the concept that household members do not necessarily have to live under the same roof, as long as they contribute to the family budget. Households are also a group of customers participating in the individual credit market. Therefore, households' access to individual credit can be considered from the perspective of credit access but with a narrower scope.

Informal credit is generally understood as forms of borrowing outside the management and supervision of financial and monetary management agencies, including loans from individuals, loans through hui, surname, ward, or loans from family, friends, and relatives (Nguyen Kim Anh *et al.*, 2017) [25]. More simply, informal credit is credit after eliminating formal and semi-formal credit.

Regarding informal credit, the part that needs attention is black credit - because these are the items that most affect individual business households - especially in rural areas because of their negative effects (Ledgerwood *et al.*, 2013b).

The group of studies by Miller (1966) [22], Kaplan and Matteis (1968) [19], and Shergold (1978) [30] all said that black credit is lending at a rate higher than the limit prescribed by law or socially accepted norms. This is the most important source of revenue for organized crime activities, besides revenue from gambling. Payments must be made on a specified date and time; delays in repayment may result in higher interest rates and even stricter collection. Additionally, loan sharks have infiltrated legitimate banks and businesses; "hiding in the shadow" of these organizations to continue expanding illegal activities. In Demyanyk's (2006) [12] view, black credit often involves lending to poor people, people with low credit scores, lack of understanding, and ignorance of the lending process. A loan is called black credit or fraud when the lender or broker charges very high fees that are not commensurate with the risk taken, lending even though they know the borrower is unable to repay in full, unilaterally changing loan terms leading to misunderstandings between the two parties. Schmulow (2016a) [29] shares the same opinion as above and adds that lenders can commit fraud or forgery - for example, forging documents and signatures.

The Vietnamese Government has had many policies to increase access to official credit for households in particular and other sectors of the economy in general through a series of different legal documents such as Establishing a separate Bank Social Policy Bank with more than 20 preferential credit programs for poor households and policy beneficiaries, Law on Support for Small and Medium Enterprises which encourages financial institutions to support these businesses, Decree on credit for rural agriculture, decisions on improving access to banking services for the economy... (Government, 2016, Government, 2019c, Government, 2019d). Even a separate regulation on the form of organization of families, hui, bieu, and wards has been issued to limit the transformation of this form into "black credit" (Government, 2019a). However, the situation of informal credit - especially black credit - has

been raging in Vietnam for a long time and shows no signs of cooling down - especially the problem of applying to households to borrow capital. Reality shows that "black credit" is a form of lending, borrowing or mobilizing capital with interest rates exceeding the legal interest rates, carried out by individuals, groups of people or business organizations. Financial services are often associated with illegal debt collection and property appropriation (Government, 2019a).

Theoretical basis

The TAM model was built and developed by Davis in 1985 [11]. This model outlines the influence of the factors: "Perceived ease of use" and "Perceived usefulness" (Perceived ease of use) and "Perceived usefulness" (Perceived ease of use). Perceived usefulness) on "Attitudes" that lead to technology use and then influence the decision to use technology (Davis, 1985) [11]. The TAM model is the most influential extension of Fishbein and Ajzen's theory of reasoned action (TRA), and Ajzen's theory of planned behavior (TPB). The TAM model has overcome some limitations of the TRA and TPB models. This theory was developed and elaborated by Venkatesh *et al* (2003a) [31]

This model is built and developed based on the theoretical model of consumer technology acceptance of 8 previous studies such as TRA, TPB, TAM, SCT (Social Cognitive Theory), combined TAM - TPB, IDT (Theory of Innovation), MM (Motivation Model), and MPCU (Computer PC Power Model) to build the UTAUT model. This model is proven to be the optimal model for explaining technological behaviour.

▪ **Access to credit**

Access to formal credit can be understood in many different ways. Rose and Hudgins (2015) [28] and Casu *et al.* (2013) [6]

argue that access to formal credit is the ability of customers to use capital from formal credit institutions based on meeting financial obligations. financial - which emphasizes the ability to repay both principal and interest. This point of view is acknowledged by Nguyen (2014) [26], Ha (2015), and Dao *et al.* (2016) [10] when they say that access to formal credit is that people, households, and business households understand and can Borrow capital from credit institutions.

• **Impact of credit access on individual business households**

Formal credit will increase costs for individual business households in the early stages, due to requirements for proof of income and types of reports proving ability to repay debt. Because most individual business households in developing countries are registered but have low accounting qualifications and unstable financial capacity, when officially accessing the capital flows of credit institutions, they will often be confused, and therefore have to pay more (Beck *et al.*, 2005, Bougheas *et al.*, 2006) [2, 4]

Research model and research hypothesis

The study uses Ajzen's (1985) [11] theory of planned behavior and Venkatesh *et al.* (2003a) [31] theory of acceptance and use of technology as the theoretical foundation to explain credit access behavior used by individual business households in Vietnam. The author uses the TPB model to evaluate, which is combined with the UTAUT model to produce 7 independent variables and 1 dependent variable. Based on the TPB and UTAUT models and the results of in-depth interviews, the author proposes the following variables affecting access to formal credit: (1) Collateral, (2) Income, and (3) Business experience of the household head, (4) Geographic distance, (5) Loan interest rate, (6) Loan procedures, and (7) Experience of commercial banks.

Table 1: Summary of studies on factors affecting credit access for individual business households in Vietnam

Authors	Collateral	Income	Business experience of household head	Geographical distance	Loan interest rate	Loan procedures	Experience of commercial banking
Dao <i>et al.</i> , 2016 [10]				x		x	x
Duy <i>et al.</i> , 2012 [13]	x	x	x		x		x
Dao <i>et al.</i> , 2016 [10]				x		x	x
Dao <i>et al.</i> , 2016 [10]			x	x		x	x
Malesky and Taussig, 2009 [21]		x			x		x
Ha (2015), Ngoc (2016) [23]	x			x		x	x
Campbell (2006) [5]							x

Source: Author's compilation

Collateral (COLL)

Collateral is all asset items intended to demonstrate the payment of future debt obligations of bank loan customers (Casu *et al.*, 2013, Rose and Hudgins, 2015) [6, 28]. In this case, it is the property of an individual business household (formed or will be formed from a loan; or guaranteed by a third party). Bester (1987) [3] argues that collateral signals a household's level of risk, with only low-risk borrowers willing to pledge high amounts of collateral. Therefore, the positive relationship between mortgage assets and the household head's ability to access loans is the most basic condition when banks consider a household's loan decision. Therefore, it can be assumed that

H1: Collateral has a positive impact on the ability to access credit of individual business households.

Incom (ICO)

The income of an individual business household is understood as all the money earned from the household's business (not including wages if doing other jobs). Chauke *et al* (2013) [7], Nguyen (2018) [24], and Peria *et al* (2012) [27] also pointed out that one of the conditions for borrowing capital from credit institutions is the borrower's ability to repay debt. Therefore, credit institutions consider a household's income as one of the criteria to determine loan limits and repayment time. Households with high, stable incomes will be given priority for loans over other households with less income. Therefore, it can be assumed

H2: Income has a positive impact on the ability of individual business households to access formal credit.

Business experience of household head (BEHH)

The business experience of the household head represents the level of knowledge as well as previous business experiences, usually from the time the household started participating in production and business to the present. The longer the number of years of business experience of the household head proves that this economic entity may have been in business very early or is an older person in the field of production and business. Lee (2006) [20], Ha (2015), Ngoc (2016) [23], and Dao *et al* (2016) [10] believe that the more experience they have, the easier it is for households and micro-enterprises in rural areas to access bank capital. Therefore, the author hypothesizes:

H3: *The number of years of business experience has a positive impact on the ability of individual business households to access credit.*

Geographical distance (GED)

According to Beck *et al.* (2005) [2], geographical distance is the geographical distance from the place of business of household businesses in the branches of EMTs, which is one of the factors affecting the ability to access credit of household. The reason is that households living far from the centre with difficult travel conditions will greatly affect their ability to access capital. Households in remote areas often have low levels of education and the ability to grasp the situation. is limited due to its distance from the centre, where many commercial centres and credit institutions are concentrated (Dao *et al.*, 2016) [10].

H4: *Geographic distance has a negative impact on the ability to access credit of individual business households.*

Loan interest rate (LIR)

Interest rates (and fees) on loans are costs calculated for loans from official credit institutions of individual business households. They not only affect payments to lenders but also have an impact on the firm's capital resources (Bougheas *et al.*, 2006) [4]. High-interest rates increase business costs, thereby causing business profits to decrease,

which hinders the development capacity of businesses. High interest rates also affect business cash flow in that borrowers have to spend more money to repay debt (Campbell, 2006, Godoy *et al.*, 1997) [5, 14]. High-interest rates also increase the risk of insolvency because the borrower cannot take full advantage of the loan's financial capacity (Malesky and Taussig, 2009) [21]. Therefore,

H5: *Loan interest rates have a negative impact on the ability of individual business households to access credit.*

Loan procedures (LOP)

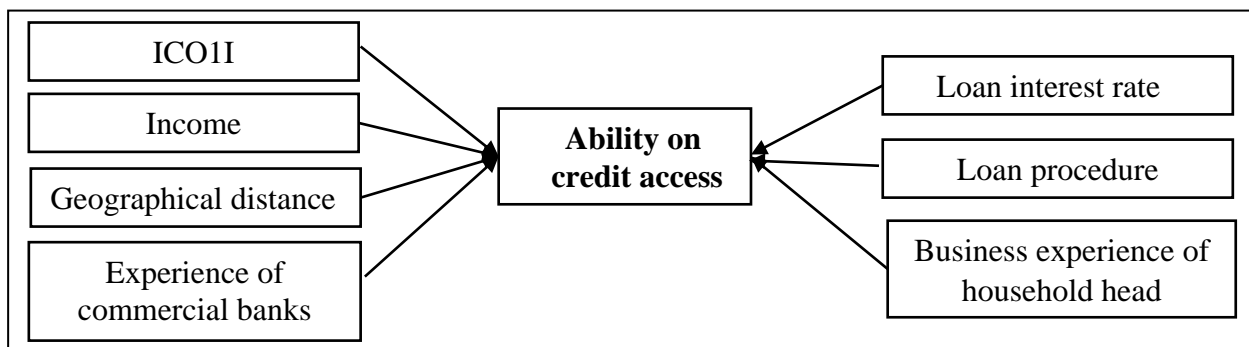
Loan procedures are also a factor affecting households' credit decisions. Christelis *et al* (2010) [8], and Coco (2000) [9] have shown that lending policies, loan procedures and service quality have the strongest influence on the borrower's decision to borrow capital. Most individual business households in Vietnam are medium, small to very small in scale, with limited skills in business management and setting up business plans, mainly based on experience recorded on books without detailed accounting, as well as an incomplete understanding of conditions for accessing credit capital (Hoang Tran Hau, 2018) [17]. This makes the strict lending procedures required by credit institutions also contribute to preventing small and medium-sized enterprises from accessing credit (Beck *et al.*, 2007). Therefore,

H6: *Loan procedures have a negative impact on the ability of individual business households to access credit.*

Experience of commercial banks (ECB)

Research by Coco (2000) [9], and Campbell (2006) [5] shows that loan interest rates; banking reputation; Number of years of establishment of the credit institution; Low service fees and ease of loan origination affect access to credit. Among them, the factors of years of establishment of the bank and ease of loan implementation have the strongest impact on customers' decision to choose a bank (Ha, 2015, Ngoc, 2016, Dao *et al.*, 2016) [10, 23]. Therefore,

H7: *Bank experience has a positive impact on the ability of individual business households to access credit.*



Source: Author adapted from in-depth interview

Fig 1: Credit access model

Research Methods

Quantitative research by collecting data from surveys on a target group of households that have used formal and/or informal credit (excluding loans from relatives or through ward/surname). The author processed data using SPSS 23 and AMOS 23 software to analyze characteristics of individual business households, scale, reliability, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), linear structural model (SEM) analysis, and

the influence of moderating variables on the relationship of the structural model.

Sampling method: individual business households registered in Vietnam, have used at least one of two forms of credit: official (provided by licensed credit institutions, including commercial banks), development banks, social policy banks, financial companies, people's credit funds, microfinance institutions); informal (mainly pawnshop organizations or conditional business organizations).

Sample size: Hair *et al* (1998) ^[16] stated that the minimum size to use EFA is 50 and preferably 100, the minimum expected sample size is 5 times the total number of observed variables and there should be 5 important variables. observed for each independent variable in the difference. Thus, an independent variable usually requires 20 to 25 observations to achieve the desired level of research.

The reliability of the scale was evaluated using the internal consistency method through Cronbach's Alpha coefficient. Use Cronbach's Alpha reliability coefficient method before analyzing the EFA factor to eliminate inappropriate variables because these junk variables can create spurious factors (Hair *et al.*, 2016) ^[16].

After evaluating the reliability of the scale with Cronbach's Alpha coefficient, the next step is to analyze the EFA exploratory factor to evaluate its value. Two

The important values of the scale are convergent value and discriminant value. The KMO coefficient (Kaiser-Meyer-Olkin) is an index used to consider the appropriateness of factor analysis. The value of KMO must reach a value of 0.5 or higher ($0.5 \leq \text{KMO} \leq 1$), which is a sufficient condition for factor analysis to be appropriate. If this value is less than 0.5, factor analysis is likely not appropriate for the research data set (Hair *et al.*, 2016) ^[16].

Eigenvalue is a commonly used criterion to determine the number of factors in EFA analysis. With this criterion, only factors with Eigenvalue ≥ 1 will be retained in the analytical model.

After analyzing the exploratory factor EFA, we analyzed the confirmatory factor CFA (Confirmatory Factor Analysis) to confirm the univariate, multivariate, convergent and discriminant validity of the scale set using black credit. Confirmatory factor analysis CFA is one of the techniques of linear structural model SEM.

When measuring the degree of fit of the model with market information, people often use the Chi-square coefficient (CMIN), comparative fit index (CFI), Tucker and Lewis index (TLI); RMSEA index (Root Mean Square Error Approximation) and Chi-square adjusted by degrees of freedom (CMIN/df).

After completing CFA and confirming that the scales in the theoretical research model are evaluated and give appropriate results, we come to linear structural model (SEM) analysis to test the theoretical model. proposed research theory. The linear structural model clearly shows the relationship between the latent variables.

The model is considered suitable for the data when the Chi-square test has a P-value > 0.05 . The value of Chi-square adjusted for degrees of freedom (CMIN/df) ≤ 5 is considered acceptable, and ≤ 3 is considered good. GFI, CFI, and TLI values ≥ 0.8 are considered acceptable and \geq

0.9 are considered good. According to Nguyen Dinh Tho and Nguyen Thi Mai Trang (2009), if the model can multiply the values of GFI, TLI, $\text{CFI} \geq 0.9$, $\text{CMIN/df} < 3$, $\text{RMSEA} < 0.08$, the model is suitable for the data.

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Research result

▪ Exploratory factor analysis (EFA)

The factor extraction method used in this analysis is Principal Axis Analysis with Promax rotation. Criteria for accepting measured variables are when the total variance extracted is equal to or greater than 50%, KMO is greater than 0.5, and variables must have a weight of 0.4 or more (Gerbing & Anderson, 1988). EFA analysis shows the results of selecting 38 observed variables with factor loading coefficients larger than the allowed standard. As a result, 07 factors were extracted with an Eigenvalue of 1.542 and the total variance extracted was 74,267, which means explaining 74,267% of the variation of the data, the KMO coefficient = 0.763 is quite high.

▪ Confirmatory factor analysis (CFA)

CFA results from the ability of individual business households to access credit scale. The weights of the observed variables all meet the allowed standard (≥ 0.5) and the statistical significance of the p-values is 0.000. Thus, it can be concluded that the observed variables used to measure the 7 components of the responsible tourism product development scale all have convergent validity. CFA shows that the model has 266 degrees of freedom, chi-square test value = 593.154 with p-value = 0.000, but chi-square/df = 1.632 meets the requirement < 2 and the model index is consistent with the data. market data (GFI = 0.902, TLI = 0.938, CFI = 0.950 and RMSEA = 0.054). The correlation coefficient between the components with the accompanying standard deviation shows us that these coefficients are all less than 1 (statistically significant). So the elements all have different values. This result shows that the components of the tourism product development scale meet the requirements in both value and reliability. Therefore, it is consistent with market data. This also allows us to reveal the one-way nature of the variables observed. As the convergent value is of interest, the standard weights of the scales are all > 0.5 and there is a statistical significance of $p < 0.5$, so the scales reach the convergent value.

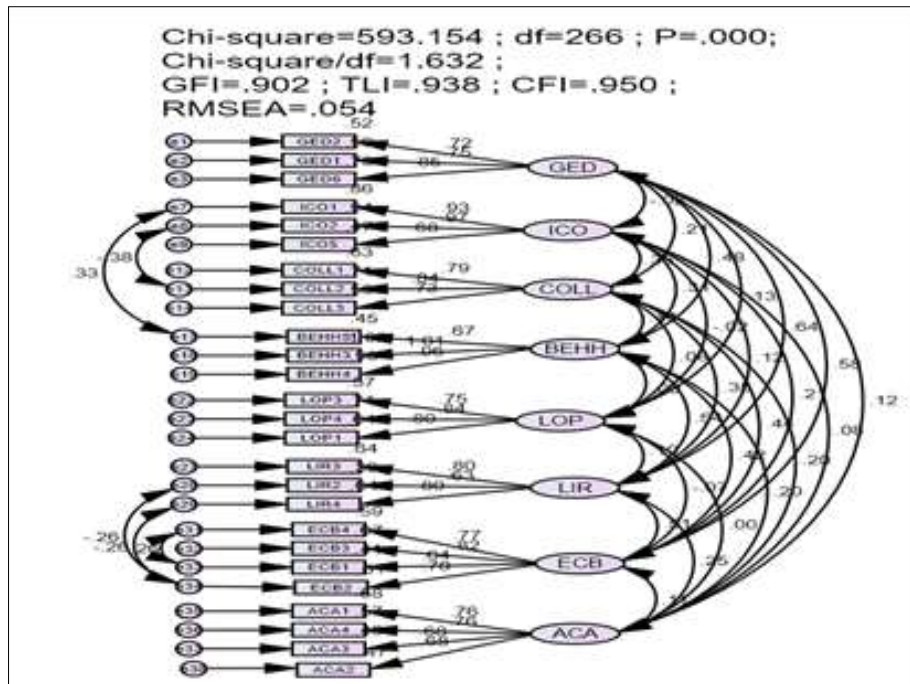


Fig 2: Model structure after final calibration in CFA

Table 2: Results of testing the discriminant value between the components of the scale Access to credit of households

Relation		Estimate	S.E.	C.R.	P	
GED	<-->	COLL	0,051	0,015	3,508	***
GED	<-->	BEHH	0,103	0,014	7,163	***
GED	<-->	LOP	0,033	0,015	2,213	0,027
GED	<-->	LIR	0,134	0,016	8,259	***
GED	<-->	ECB	0,124	0,016	7,836	***
GED	<-->	ACA	0,033	0,016	2,044	0,041
ICO	<-->	COLL	0,145	0,025	5,868	***
ICO	<-->	BEHH	0,115	0,020	5,654	***
ICO	<-->	LIR	0,043	0,020	2,120	0,034
ICO	<-->	ECB	0,078	0,021	3,801	***
COLL	<-->	BEHH	0,115	0,017	6,936	***
COLL	<-->	LIR	0,089	0,017	5,400	***
COLL	<-->	ECB	0,115	0,017	6,653	***
COLL	<-->	ACA	0,063	0,020	3,205	0,001
BEHH	<-->	LIR	0,124	0,016	7,828	***
BEHH	<-->	ECB	0,095	0,014	6,605	***
BEHH	<-->	ACA	0,058	0,016	3,605	***
LOP	<-->	LIR	0,027	0,016	1,676	0,004
LOP	<-->	ECB	-0,018	0,016	-1,119	0,026
LOP	<-->	ACA	0,002	0,020	0,082	0,035
LIR	<-->	ECB	0,117	0,016	7,286	***
LIR	<-->	ACA	0,072	0,018	4,033	***
ECB	<-->	ACA	0,031	0,017	1,803	0,021

(Source: Analysis in SPSS Amos 23.0)

Table 3: Causal relationship between concepts and results of research hypotheses

Relation	Estimate	S.E.	C.R.	P	Label		
ACA	<--->	GED	0,056	0,139	0,405	0,006	Yes
ACA	<--->	ICO	0,020	0,049	0,001	0,029	Yes
ACA	<--->	COLL	0,124	0,083	1,487	0,037	Yes
ACA	<--->	BEHH	0,088	0,091	0,972	0,031	Yes
ACA	<--->	LOP	0,028	0,064	0,444	0,027	Yes
ACA	<--->	LIR	0,293	0,116	2,530	0,011	Yes
ACA	<--->	ECB	0,086	0,115	0,747	0,045	Yes

(Source: Analysis in SPSS Amos 23.0)

Testing the research model SEM

In the research model, there are 8 research concepts, of which 7 are independent, including (1) Collateral, (2) Income, (3) Business experience of the household head, (4) Geographic distance, (5) Loan interest rate, (6) Loan procedures, and (7) Experience of commercial banks and the ability of individual business households to access formal credit are dependent concepts.

The results show that this model has a chi-square statistical value of 593,543 with 265 degrees of freedom (p = 0.000). Relative chi-squared in degrees of freedom CMIN/df is 1,539 (< 0.2). Other indicators such as GFI= 0.901 (> 0.9),

TLI = 0.938 (> 0.9), CFI = 0.949 (> 0.9) and RMSEA = 0.055 (< 0.08). Therefore, this model achieves compatibility with market data. The factors include (1) Collateral, (ES = 0.124; P = 0.006); (2) Income, (ES = 0.028; P = 0.049); (3) Business experience of the household head, (ES = 0.088; P = 0.031); (4) Geographic distance, (ES = 0.020; P = 0.001); (5) Loan interest rate, (ES = 0.293; P = 0.011); (6) Loan procedures, (ES = 0.056; P = 0.006); and (7) Experience of commercial banks, (ES = 0.086; P = 0.045), all have P < 0.05 and the normalized estimates are positive, so they have a direct, positive influence on the whole value. This means accepting hypotheses H1, H2, H3, H4, H5, H6 and H7.

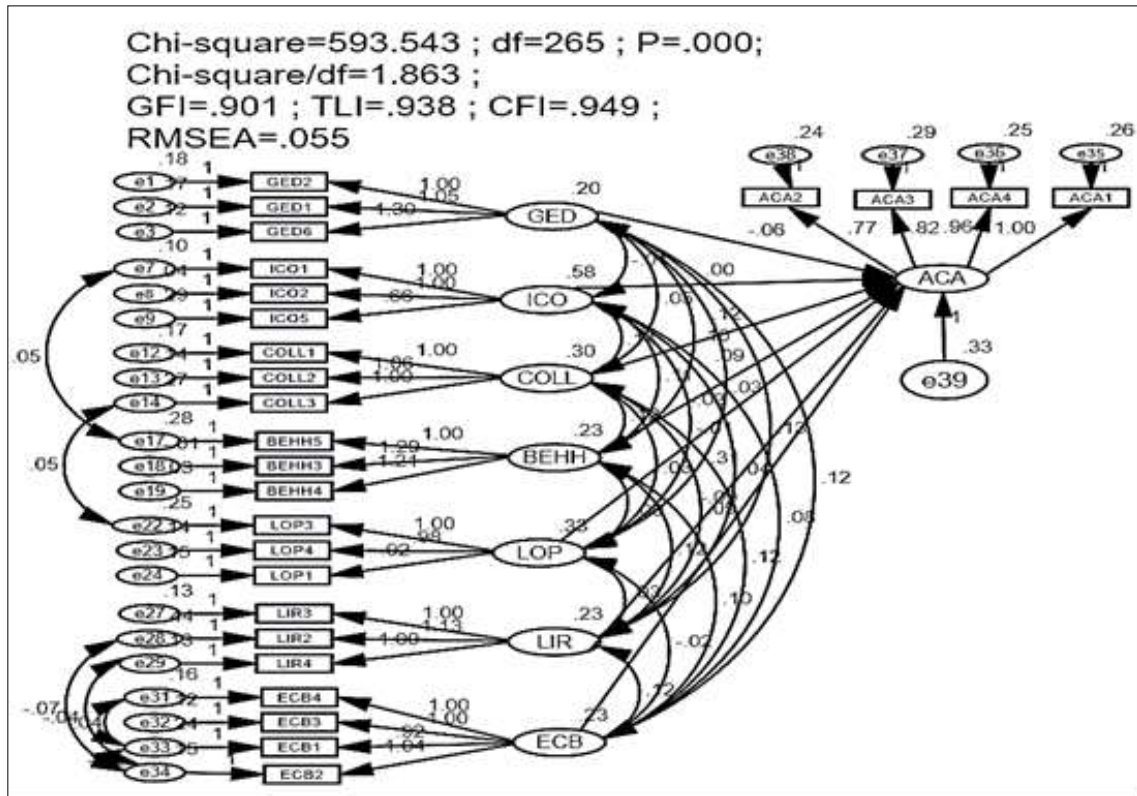


Fig 3: SEM analysis

Check the reliability of the estimate using Bootstrap

The Bootstrap method was used to test the model estimates in the final model with the number of repeated samples of N = 1000. The estimated results from 1000 samples averaged with bias are presented in Table 5. The absolute value of CR

is very small compared to 2, so it can be said that the bias is very small; and not statistically significant at the 95% confidence level. Thus, we can conclude that the estimates in the model can be trusted.

Table 4: Estimation results by bootstrap with N = 1000

Parameter	SE	SE-SE	Mean	Bias	SE-Bias	CR
ACA <--- GED	0.158	0.004	-0.045	0.017	0.005	0.29
ACA <--- ICO	0.048	0.001	-0.004	-0.003	0.002	-0.67
ACA <--- COLL	0.09	0.002	0.135	0.011	0.003	0.27
ACA <--- BEHH	0.106	0.002	0.093	0.006	0.003	0.50
ACA <--- LOP	0.086	0.002	-0.03	0.011	0.003	0.27
ACA <--- LIR	0.172	0.004	0.273	-0.036	0.005	-0.14
ACA <--- ECB	0.146	0.003	-0.088	0.012	0.005	0.42

(Source: Analysis in SPSS Amos 23.0)

Conclusion

In current conditions, access to credit and the role of credit institutions are critical in promptly providing capital to households to supplement business capital, ensuring production and operational processes. Business and service activities are developed continuously and sustainably.

Based on the demand-side approach of financial services as well as comprehensive finance, the thesis has proposed factors affecting the ability of individual business households to access credit and non-credit services in Vietnam. First, for the formal credit access model, the author added a variable "financial knowledge" into the

model. Adding a variable to the model will contribute to enriching the factors affecting households' access to non-credit, as well as the original TPB theoretical model being extended to non-credit behaviours. recommended.

In addition, the thesis also makes a number of practical contributions as proven by experience: such as household head experience, interest rates, distance, and electronic banking... all impact the intention to continue. access to credit. At the same time, for informal credit access, social influence, effort, financial literacy and security have positive effects. From there, the author offers a number of solutions for state management agencies, credit institutions, local mass organizations and households to increase access to credit services. as well as restricting black credit.

Limitations of the study

Although some issues regarding access to informal credit have been assessed, in reality, if households approach using capital from their/hui/ward/bien side, it can be considered somewhat Semi-official credit, especially in rural areas, when the commune People's Committee manages this activity. These activities based on mutual trust or peer-to-peer credit contribute a large part to the credit of individual business households. Therefore, one of the limitations of the study is that it does not deeply evaluate peer-to-peer credit access or evaluate the impact of revolving credit (ROSCAs). As for the theory of credit access, research is evaluating quite a lot about income. In fact, for economic growth, modern theories pay attention to a number of other aspects such as promoting gender equality, and regional development... Therefore, it is possible to develop the impact of credit access to gender equality or national goals such as hunger eradication and poverty reduction.

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