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Structural Equation Modeling of Relationship Factors Affecting Entrepreneurial Microfinance in Phuket, Thailand

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ABSTRACT

In globalized business, most entrepreneurs need to diversify sources of funding, especially given the internationalization of trade and finance. Entrepreneurs in particular are crucial to national and regional growth but they are most vulnerable to the difficulties and high costs in obtaining loans and small business funding. An exception however can be found in the Bangladesh Grameen Bank which opened its doors in 1983 to the impoverished peasants and poor using microcredit loans, of which 95% were to mostly women. With Thailand having over 99% of its businesses represented by small and medium-sized enterprises (SMEs), researchers decided to study the relationship factors that affect the credit support to these small entrepreneurs. In 2011, a Phuket Province census found that one in 7 households had an entrepreneurial business and they suffered from lack of loans. For qualitative research, the research survey consisted of 200 commercial bank executives that affect retail lending to the Phuket, Thailand's entrepreneurial island community. Factors having both a direct and an indirect influence having the highest positive factors within the organization included credit policy and strategy. Borrowers must additionally have aknowledge management system which can take place in many forms. Bank organizational and internal factors researched also included policies, plans, strategies and loan terms which is determined bycredit policy and retail lending or not. Additional factors in this determination are bank revenues, profits and brand image.

Key words: Microfinance, Grameen bank, SMEs financing

INTRODUCTION

Globalization is accelerating the economic integration of regional and global trading blocks, or more commonly known as Regional Free Trade Zones. Here is Asia, Association of South East Asian Nations (ASEAN) was established by the Bangkok Declaration on August 8, 1967, with 5 countries, including Indonesia, Malaysia, Philippines, Singapore and Thailand signing the original document. Membership has since been expanding and today ASEAN includes countries with Brunei Darussalam, Cambodia, Laos, Myanmar and Vietnam have been joined.

The 3 main objectives of the ASEAN declaration were to promote the economic, social and cultural development (Fig. 1) within the region. It was also established to maintain economic stability and regional security as well as to be used as a platform for disputes within the region. The three main pillars of the community are the ASEAN Security Community, Asian Economic Community (AEC) and ASEAN Socio-Cultural Community.

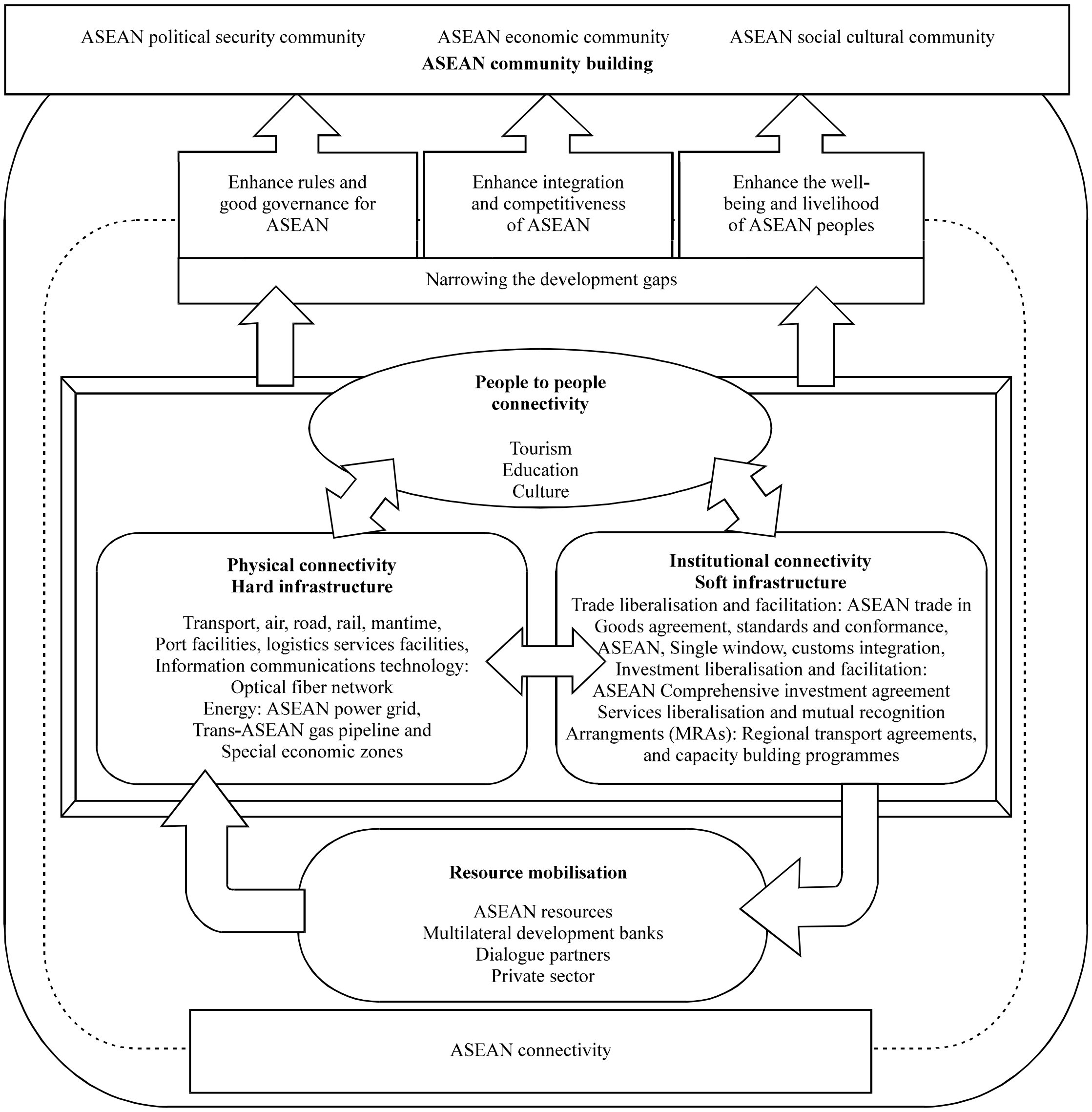
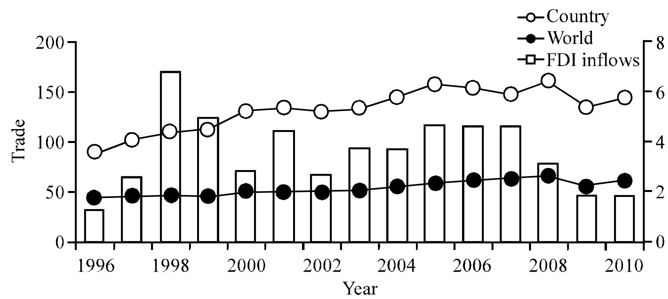


Fig. 1: Interaction between ASEAN connectivity and ASEAN community, Economic Research Institute for ASEAN and East Asia (ERIA)

In economic terms, the AEC also has three pillars that will be the driving force to the economic integration on 31 December 2015. These is a single market and single production base, greater freedom in the movement of capital and skilled labor and greater freedom in the movement of products (Chia, 2013).

The AEC Blueprint will transform ASEAN into a single market and production base, a highly competitive economic region, a region of equitable economic development and a region fully integrated into the global economy (ASEAN, 2009).

Free and open investment regimes are key elements to enhance ASEAN's competitiveness in attracting Foreign Direct Investment (FDI) as well as intra-ASEAN investment. Sustained inflows of new investments and reinvestments will promote and ensure dynamic development of ASEAN economies (Fig. 2).



Thailand	Imports	Exports
Total trade (US$ millions), 2010	228,001	229,125
Services trade (US$ millions), 2010	45,601	33,806
Merchandise trade (US$ millions), 2010	182,400	195,319
Agricultural (% of merchandise trade), 2010	6.57	17.99
Fuels and mining (% of merchandise trade), 2010	22.03	6.21
Manufactures (% of merchandise trade), 2010	66.98	72.45

Fig. 2: Thailand's trade and FDI inflows, imports and exports (Lawrence *et al.*, 2012)

The AEC will establish ASEAN as a single market and production base making ASEAN more dynamic and competitive with new mechanisms and measures to strengthen the implementation of its existing economic initiatives, accelerating regional integration in the priority sectors, facilitating movement of business persons, skilled labor and talents and strengthening the institutional mechanisms of ASEAN. This will lead to the development of higher standards of living as well as increasing the region's living standard while reducing the social inequality gap.

Significant progress has already been made in identifying those Non Tariff Barriers (NTBs) that affect intra-regional trade the most. The identification process involved a number of important steps which led to the decision to focus on those NTBs that affect the most widely-traded products in the AEC region. These products included minerals, electrical appliances and machinery. In 1994 when these were initially identified, these products made up nearly 55% of Indonesia's imports, over 64% of Malaysia's imports, over 50% of the Philippines' imports and nearly 70% of Thailand's imports (ASEAN, 2014). It therefore is a great opportunity for Thailand and the nation's entrepreneurial businesses to adapt and take advantage of the reduction so the reduction in trade barriers benefits trade and investment fully.

With Thailand's goal of economic development and the spread of prosperity within the region, there must be a strategy focused on developing countries to generate economic growth. But entrepreneurial enterprises in Thailand entail mostly Small and Medium Enterprises (SMEs) and micro-enterprises which represent 99% of the total businesses. Of this, micro-entrepreneurs with employees up to 5 people with capital creation of up to 100,000 baht accounted for commercial registration (OSMEP, 2007) of which 66.95% of the total number, SMEs (OSMEP, 2010) are experiencing financial problems. Factors include lack of financial resources, lack of access to capital and lack of promotion marketing which all contribute to SMEs being unable to compete contributing to higher debt and losses.

In addition, micro-enterprises, which includes the vast majority of Thai businesses have no financial business plans, no financial or unreliable records or have no collateral to offer to secure a loan. Thus, they have difficulty accessing credit from financial institutions.

Usually however, short-term credit to micro-enterprises is very small and steps to a fast and hassle free loan should focus on a convenient source of credit with good and fast service, instead of the amount of the interest rate.

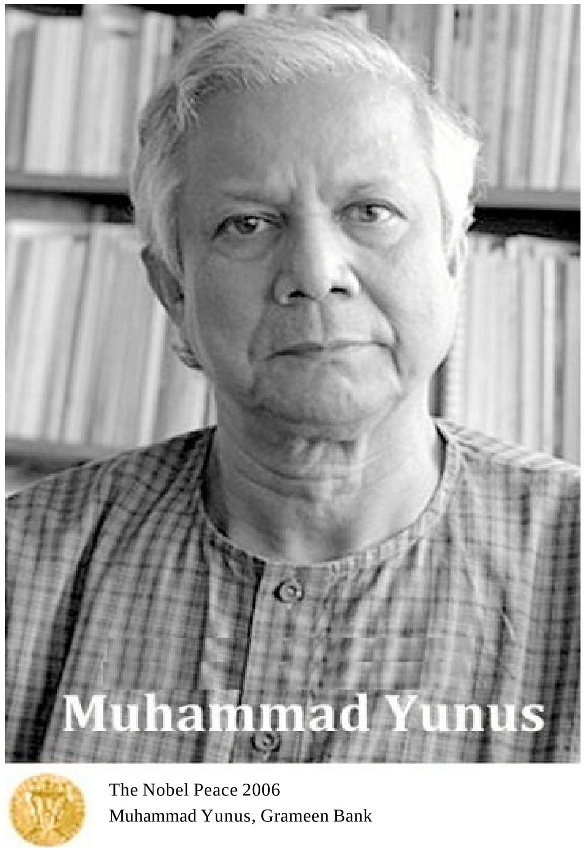


Fig. 3: Dr. Muhammad Yunus

Therefore, micro-enterprises using informal sources of credit, accounted for 44.44% of all micro-enterprise financing. These loans from informal money lenders occurred with relatively high interest rates (OSMEP, 2008) due to the quickness of getting money with minor procedural hassles and no need for personal guarantees. Growth in microenterprises seems to suffer from a variety of factors, of which lack of access to finance, infrastructure and markets and poor quality technology and regulatory barriers appear to be most common (World Bank, 2004; World Bank, 2007).

Microcredit as an alternative for small entrepreneurs, can help to solve the problems for the small businesses and entrepreneurs. Microcredit is a means of fighting poverty which in Bangladesh was realized when Muhammad Yunus (Fig. 3) in 1983 established the Grameen Bank which sought to realize his vision of self-support for the very poorest people by means of loans on easy terms. The bank has since been a source of inspiration for similar microcredit institutions in over one hundred countries.

The implementation of Grameen Bank principals alleviates poverty, contributes to the creation of jobs, creates income stability and creates a better life for their members. Banks in the traditional system have been reluctant to lend money to anyone unable to give some form or other of security. Grameen Bank, on the other hand, works on the assumption that even the poorest of the poor can manage their own financial affairs and development given suitable conditions. The instrument is microcredit, which is small long-term loans on easy terms.

Importance of SMEs to Thailand's economy	1997	2002
Number	799,033	1,639,427
(%)	99.5	99.7
Employment	4,057,595	4,990,217
Total enterprises (%)	76.4	69.0
GDP (%)	37.7*	38.9
Export (%)	38.5**	38.2

Fig. 4: Poonpatpibul and Limthammahisorn (2005) reports on manufacturing 1997 and the 2002-trade and service businesses census from the Thai National Statistical Office

By the time, Grameen Bank and Muhammad Yunus were co-awarded (The Norwegian Nobel Institute, 2006), more than seven million borrowers had been granted such loans. The average amount borrowed was 100 dollars and the repayment percentage was very high with over 95% of the loans going to women or groups of women. Experience showed that ensured the best security for the bank and the greatest beneficial effect for the borrowers' families.

In the effort of the poor to escape poverty, microcredit/microfinance has received considerable attention from economists and politicians which view these financing vehicles as a tool to alleviate poverty and stimulate economic growth by providing small loans to under privileged and poor individuals, organizations or groups.

Because small enterprises are essential to the local economy, it is essential that entrepreneurs are strengthened and be given the opportunity that enables them to improve their efficiency of doing business while both reducing unemployment and poverty (Walls *et al*., 2001).

For Thailand today with more than 2 million small and medium-sized enterprises (SMEs) representing 99% of the total, microcredit is one tool in helping domestic micro-enterprises (Fig. 4).

One of the urgent measures in the Thai national plan is to solve credit access problems of SMEs. The Thai government has taken a major role in bestowing financial assistance to SMEs by setting target loans provided through the Specialized Financial Institutions (SFIs) and promoting loans provided by commercial banks. These measures intend to allow faster release of financial credit to SMEs and solve NPL problems. Besides, measures in the national master plan, the government has launched the Village Fund Project aiming to alleviate poverty problems particularly in rural areas and to boost economic recovery. This project provides working capital for people and small home industry in villages by an amount of one million baht per village. This however isn't enough as by the end of 2004, only a total of 224,000 million baht had been allocated to the villagers throughout the country. The proportions of allocated funds are 67% for agriculture, 17% for trading, 6% for emergency, 4% for industry and 4% for service (Poonpatpibul and Limthammahisorn, 2005). Therefore, microfinance must take on the larger role that government cannot fill.

In addition, Phuket as the largest island province in Thailand whose economy is centered marine and ocean tourism has become a large and growing source for potential business, employment and foreign tourism. The population has increased steadily with a higher standard of living and consumption rate compared to other regions. Therefore, it is necessary to have SMEs to meet the needs of consumers in Phuket. In 2011, a Phuket province census found that one in 7 households had an entrepreneurial business and the business operator suffered from lack of loans.

The researcher's objectives therefore were to study factors affecting the financing of entrepreneurial companies in Phuket. The purpose of the research was to assist in developing systems for entrepreneurial and small business funding which helps with the survival of small enterprises.

CONCEPTUAL DEVELOPMENT

Microfinance: Microfinance is the most useful and popular financial system in the world to face financial crisis of the poor people. It gives loan to those people whom the government or any commercial bank will not give loan facility. Both for rich and poor countries of the world, microfinance tries to improve access to loans and saving services for low-income, low-wealth people which is the fastest-growing and best-known tool to combat poverty (Islam *et al.*, 2012).

The terms microcredit and microfinance are often used interchangeably but there is a difference between them. Microcredit refers to the act of providing the loan. On the other hand microfinance is the act of providing these same borrowers with financial services, such as savings institutions and insurance policies (Sengupta and Aubuchon, 2008).

Research by Chiamchittrong (2010) evaluated the performance of annual sales or income and others including (McFadzean *et al.*, 2005) gross profit/gross margin, cash flows action and operating cash flow and net income (Wattanakul, 2002). Concerning the general public (Polsaram, 1998), organizational images are important.

Trainer (2002a) thesis concerning 'The Simpler Way', it was discussed how life and communities could be simplified with simpler lifestyles in small, highly self-sufficient local economies where individuals were more cooperative in creating a new economy, producing less than the present economy. These individuals should also exhibit different values, especially cooperation not competition and frugality and self-sufficiency not acquisitiveness and consuming. Additionally, Trainer (2002b) argued that there must be a new approach to poverty alleviation and the old 'neo-classical' approach doesn't work.

Wakoko (2003) found that African women's empowerment is due to both their indirect access to land (e.g., through hypergamy) and also, through direct access to other resources (e.g., employment, education and credit use). As such, the extent to which these resources empower women depends on the nature of women's experiences with them either as owners, users or when they are in control of them. Second, that a number of factors mediate the effects of each resource (including credit/savings), on women.

This is also consistent with the study of Hussain *et al.* (2001) which investigated the prospects of the implementation of a Grameen Bank/microcredit type banking system in the European socio-economic and cultural contexts.

Membership: Kiso (2008) noted that micro-finance institutions are different from banks in that their customers appear as members. With this 'membership', loans are made as group loans with shared responsibility to pay the debt, which also increases your ability to pay back debts to the lending financial institutions. Membership loans are mainly to females (Faridi, 2004) because the risk of lending to female is less than males (Hassan and Renteria-Guerrero, 1997). Endeavors which have existed for many years, increases the ability to obtain a loan and more credit because a bank can verify your past business relationships (Chiamchittrong, 2010; Nopwattanapong, 2007).

Responsibility: Factors contributing to the successful measurement of business organizations include not only operations and financial data, but also product quality, employee satisfaction, the environmental hazards on the environment and their impact on society which is "Corporate social responsibility-CSR".

CSR is defined by the European Commission as "the responsibility of enterprises for their impacts on society" The Commission encourages that enterprises "should have in place a process to integrate social, environmental, ethical human rights and consumer concerns into their business operations and core strategy in close collaboration with their stakeholders" (European Commission, 2011).

This is crucial for businesses and enterprises and they should take into account the strategic importance of social responsibility (Wongprasert, 2009) which includes the responsibility of businesses with its employees, the responsibility of a business to its creditors, the responsibility of the business to its investors and its overall Corporate Social Responsibility (CSR).

Harraf (2008) noted that microfinance help the poor to access capital when money is difficult or impossible to obtain. Microfinance also has a social benefit. This is consistent with the study of Hussain *et al.* (2001) who said that Grameen Bank helps and gives social development opportunities to the disadvantaged. If any members of the group are weak and need help, a supportive social network helps, cultivate good saving habits for the poor. The nature of the lending group should also help create a shared responsibility and make the funding a joint responsibility.

The lender should also be involved with training members of society and helping them with the knowledge to help each other (Valente, 2011) to achieve trust, credibility and the expectations of society, such as a standard product/service, development/extension and products/services. It is also necessary to provide opportunities for the disadvantaged. The lending group shares responsibility and is funded jointly and shares debted responsibility together while guaranteeing the network (Kiso, 2008; Iqbal, 2002; Wakoko, 2003).

Knowledge management: Marquardt (1996) quote, "Empowered workers are able to make decisions as good as, if not better than the decisions made by managers because the workers, in fact, possess the best information" is important to the concept of knowledge management. Knowledge has become more important for organizations than financial resources, market position, technology, or any other company asset. Individuals may come and go, but valuable knowledge cannot be lost or the company starves to death. It includes the acquisition, creation, storage, transfer and utilization of knowledge.

Marquardt (1996) also went on to state that involving the community as a part of the learning process brings many benefits, it may, for example prepare potential future workforce and enhance the company's image.

The top strategies for people empowerment and enablement in learning organizations:

- Institute personnel policies that reward learners.
- Create self-managed work teams
- Empower employees to learn and produce (information workers with knowledge about financial, technical and other data so that they can make wiser decisions)
- Encourage leaders to model and demonstrate learning
- Invite leaders to champion learning processes and projects
- Balance learning and development needs of the individual and organization

- Encourage and enhance customer participation in organization learning
- Provide education opportunities for community
- Build long-term learning partnerships with vendors and suppliers
- Maximize learning from alliances and joint ventures

In measuring business success, there are several other theories for measuring both quantitative and qualitative targets. One such theory was introduced in a 1992 Harvard Business Review article (Kaplan and Norton, 1992), in which David Norton and Robert Kaplan undertook a multi-company research project to study performance measurement in companies whose intangible assets played a central role in value creation according to Nolan Norton Institute in 1991. The researchers believed that if companies were to improve the management of their intangible assets, they had to integrate the measurement of intangible assets into their management systems. During the next 15 years, the original balanced scorecard (BSC) strategy performance management tool was adopted (Fig. 5) by thousands of private, public and nonprofit enterprises around the world, the researchers extended and broadened the concept into a management tool for describing, communicating and implementing strategy.

Organizational factors: Organizational factors within an organization can either strengthen or weaken the entity so they must seek opportunities and avoid obstacles that may occur (TPI, 2005) The organization's policies are the factors that make your business successful or not. The relevant policies in project planning (Katawut, 2012) which are related to organizational strategic planning and operations have different characteristics in microfinance compared to those of larger financial lending institutions.

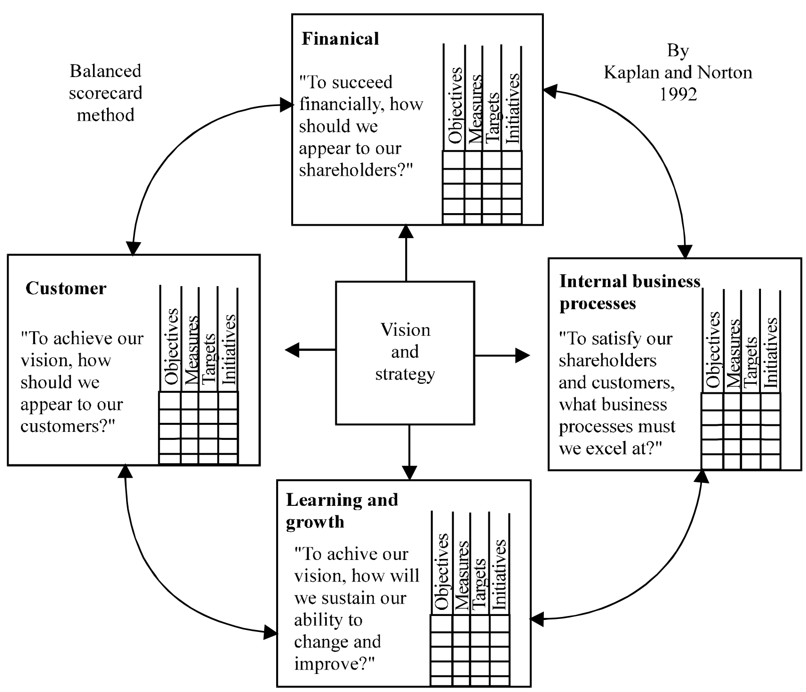


Fig. 5: Balanced scorecard method (Kaplan and Norton, 1992)

As a result, both policy and strategy related to loans are different from general lending institutions (Hadisumarto and Ismail, 2010), as well as the type of business lenders, the nature of the lender, the type of use which includes other factors and conditions such as the size of the credit limit, interest rate and payment rate.

After a literature review and development of the above concepts, the following hypotheses were developed. They have been presented in Fig. 1 and 2 for better visualization:

- **H1:** Membership influences microfinance
- **H2:** Membership influences responsibly
- **H3:** Membership influences knowledge management
- **H4:** Knowledge management influences microfinance
- **H5:** Responsibility influences microfinance
- **H6:** Organizational factors influences microfinance

METHODOLOGY

The sample population or unit of analysis for this research included bank executives in both the private and public sector.

Data collection: Questionnaires were constructed to be a tool to measure concept definition and practice and were compiled from the literature. The content and structural validity were determined by Item Objective Congruent (IOC) and by 5 experts in their related fields. The instrument or questionnaire used the 7-Point Likert Scale as the measurement scale. The conceptual framework for determining the internal consistency was measured by coefficient alpha (α-coefficient) of Akron BAC (Cronbach) to calculate the average value of the correlation coefficient:

- **Quantitative research:** Stratified sampling was used in the research as it offers significant improvement over simple random sampling as simple random sampling tends to have larger sampling errors and less precision than stratified samples of the same sample size. Stratified sampling is a probability sampling procedure in which the target population is first separated into mutually exclusive, homogeneous segments (strata) and then a simple random sample is selected from each segment (stratum). The samples selected from the various strata are then combined into a single sample. This sampling procedure is sometimes referred to as “quota random sampling”

The researchers adopted a survey research design in this study in which stratified sampling was applied to pick the sample size from commercial, private and public sector banks. Data was collected through questionnaires from 200 respondents. The same was analyzed using frequencies and percentages. A regression analysis was also conducted:

- **Qualitative research:** Qualitative research was conducted by collecting information from themanagement of individual banks to verify the models derived from quantitative research. With a sample of 10 individuals selected for sampling, by use of non-probability sampling techniques while using randomsampling (purposive sampling)

Table 1: Statistic values presenting convergent validity of reflective scales of latent variables

Construct/Item	Loading	t-stat
Membership (member)		
Relationship (relation)	0.8174	31.6447
Creditability (credibility)	0.8354	27.8068
Experience (experience)	0.8555	39.5586
Responsibility (respond)		
Debt repayment (respond_debt)	0.9254	94.2767
Social development (respond_social)	0.9499	53.3349
Knowledge management (knowledge)		
Knowledge type (type)	0.9336	80.1726
Learning method (learn)	0.9434	101.0377
Organizational factors(org.factor)		
Departmental strategies (strategy)	0.9042	64.2159
Policies (policy)	0.9107	54.0073
Credit terms (condition)	0.9255	39.7367
Microfinance (micro-finance)		
Corporate image (image)	0.8575	25.1675
Profit (profit)	0.8809	38.3866
Revenue (revenue)	0.8967	56.9987

Measurement:

- **Dependent variable:** Microfinance (Micro-finance) analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert,1972) and have been constructed with the scales developed enabling measurement of Corporate Image (image), Profit (profit) and Revenue (revenue) (Islam *et al.*, 2012; Chiamchittrong, 2010; McFadzean *et al.*, 2005; Wattanakul, 2002; Polsaram, 1998)
- **Independent variables:** Membership (Member) analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert,1972) and have been constructed with three aspects (Table 1) including Relationship (relation), Creditability (credibility) and Experience (experience) (Kiso, 2008; Faridi, 2004; Hassan and Renteria-Guerrero, 1997; Chiamchittrong, 2010; Nopwattanapong, 2007)

Responsibility (Responsibility) analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert,1972) and have been constructed with four aspects (Table 1) including Debt Repayment (respond_debt) and Social Responsibility (respond_social) (Wongprasert, 2009; Harraf, 2008; Hussain *et al.*, 2001; Valente, 2011; Iqbal, 2002; Wakoko, 2003; Kiso, 2008).

Knowledge management (Knowledge) analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert,1972) and have been constructed with four aspects (Table 1) including Knowledge Type (type) and Learning Method (learn) (Marquardt, 1996; Kaplan and Norton, 1992; Wakoko, 2003; Loucks *et al.*, 2010).

Organizational factors (Organization factor) analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert,1972) and have been constructed with four aspects (Table 1) including Departmental Strategies (strategy), Policies (policy) and Credit Terms (condition) (TPI, 2005; Katawut, 2012; Hadisumarto and Ismail, 2010; Iqbal, 2002; Kajimo-Shakantu and Evans, 2007).

RESEARCH ANALYSIS

Partial Least Squares has been applied for analysis of quantitative data by the researcher. It is data analysis for Confirmatory Factor Analysis (CFA) relating to the determination of Manifest Variable and Latent Variable and testing of research hypothesis exhibiting in structural model analyzed by using the applications of PLS-Graph (Chin, 2001).

According to the analysis result of scale validity and reliability, scale investigation has been conducted using internal consistency measurement coefficient alpha (α-coefficient) of Akron BAC (Cronbach) to calculate the average value of the correlation coefficient. It was found that alpha coefficients ranged from 0.524-0.937, which is considered to have high reliability.

In case of measure variables with reflective analysis, convergent validity has been conducted. Loading is used as consideration criteria and must be positive quantity and indicator loading has been more than 0.707 and all values have been statistically significant ($|t| \geq 1.96$) representing convergent validity of scales (Lauro and Vinzi, 2004; Henseler *et al.*, 2009) quoted in Piriyakul (2010) and analysis results as shown in Table 1.

Membership (member) factors underlying the external variables influence on Creditability (creditability), Relationship (relation) and Experiences (experience) with loading values of 0.8174, 0.8354 and 0.8555, respectively. There was a significant level of 95% confidence (t-stat>1.96), which considers such factors highly reliable. These factors affect Microfinance.

Responsibility (responsibility) factors underlying the external variables influence on the responsibility for Debt Repayment (respond_debt) and Social Development (respond_social) with loading values of 0.9254 and 0.9499, respectively. There was a significant level of 95% confidence (t-stat>1.96), which considers such factors highly reliable. These factors affect Microfinance.

Knowledge management (knowledge) factors underlying the external variables influence on Knowledge Type (type) and Learning Method (learn) with loading values of 0.9336 and 0.9434, respectively. There was a significant level of 95% confidence (t-stat>1.96), which considers such factors highly reliable. These factors affect Microfinance.

Organizational factors (org.factor) factors underlying the external variables influence on Departmental Strategies (strategy), Policies (policy) and Credit Terms (condition) with loading values of 0.9042, 09107 and 0.9255, respectively. There was a significant level of 95% confidence (t-stat>1.96), which considers such factors highly reliable. These factors affect Microfinance.

Microfinance (micro-finance) factors underlying the external variables influence on Corporate Image (image), Profit (profit) and Revenue (revenue) with loading values of 0.8575, 0.8809 and 0.8967, respectively. There was a significant level of 95% confidence (t-stat>1.96), which considers such factors highly reliable.

The above reflective model in Table 1 shows the discriminant validity of the internal latent variables and the correlation of variables. It also depicts the scale reliability which has been analyzed from Composite Reliability (CR) as well as the Average Variance Extracted (AVE) and R^2. The CR value should not go below 0.60 and the AVE values should also drop below 0.50 and R^2 values should not be under 0.20 (Lauro and Vinzi, 2004; Henseler *et al.*, 2009) (Boontawan and Montree, 2010) (Table 2).

An analysis of structural equation modeling of relationship factors affecting entrepreneurial microfinance in Phuket, Thailand found that of the 6 assumptions, only hypothesis 1 and hypothesis 4 were not supported, which means Membership and Knowledge Management have no direct or positive effect on Microfinance of Phuket entrepreneurs (Table 3). Additional factors with an indirect or positive effect for micro financing of island entrepreneurs can be viewed in Fig. 6 and 7. The final model for the research appears in Fig. 6.

Table 2: Results of Confirmatory Factor Analysis (CFA) for measurement model

				Cross construct correlation				
Construct	CR	R^2	AVE	Membership	Responsibility	Knowledge managment	Organizational factors	Microfinance
Membership	0.875		0.699	0.836				
Responsibly	0.936	0.399	0.879	0.631	0.938			
Knowledge management	0.937	0.508	0.881	0.713	0.529	0.939		
Organizational factors	0.938		0.835	0.722	0.725	0.798	0.914	
Microfinance	0.910	0.653	0.772	0.575	0.692	0.632	0.787	0.879

Statistical significance level is at 0.01 and diagonal figures mean $\sqrt{\text{AVE}}$

Table 3: Research hypotheses test results

Hypotheses	Coefficient	t-stat	Results
H_1: Membership influences microfinance	-0.070	0.8865	Not supported
H_2: Membership influences responsibly	0.631	12.4748	Supported
H_3: Membership influences knowledge management	0.713	19.5484	Supported
H_4: Knowledge management influences microfinance	0.076	0.8790	Not supported
H_5: Responsibly influences microfinance	0.279	3.1388	Supported
H_6: Organizational factors influences microfinance	0.574	5.8427	Supported

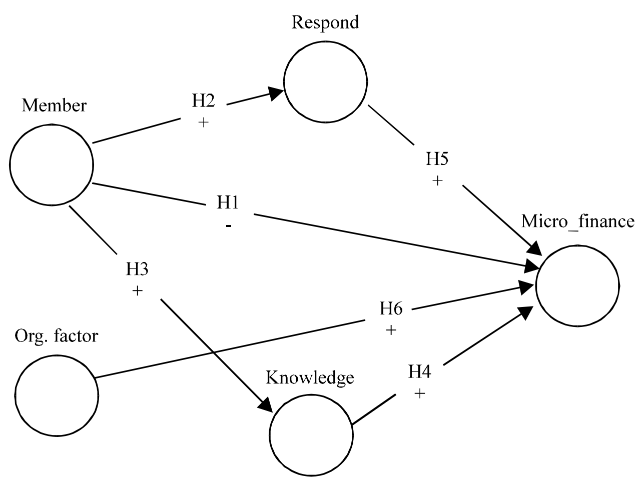


Fig. 6: Results model

The Hosmer-Lemeshow test (Table 4) is a statistical test for goodness of fit or logistic regression models. It is used frequently in risk prediction models. The test assesses whether or not the observed event rates match expected event rates in subgroups of the model population. The Hosmer-Lemeshow test specifically identifies subgroups as the deciles of fitted risk values. Models for which expected and observed event rates in subgroups are similar are called well calibrated.

Model validation or PLS fit index is a measure of the following GoF equation as follows (Piriyakul, 2010):

$$\text{GoF} = \sqrt{\overline{\text{Commun}} * \overline{R^2}} \quad \overline{R^2} = \frac{1}{J}\sum_{j}^{J} R^2\left(\hat{\xi}_j,\ \hat{\xi}_{q(\xi_q \to \xi_j)}\right) \tag{1}$$

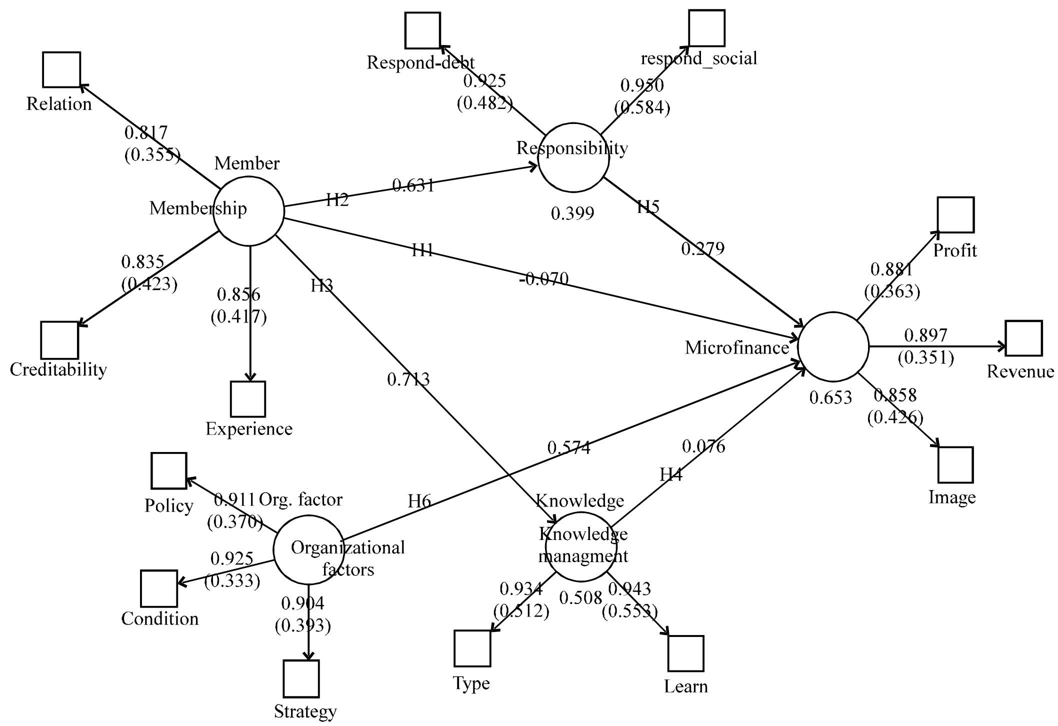


Fig. 7: Final model-analysis of factors that affect microfinance

Table 4: Influencing factors affecting the credit support to small entrepreneurs and the influence of the Hosmer-Lemeshow Goodness of Fit (GoF) test

Effects	Membership	Responsibility	Knowledge managment	Organizational factors
Direct	-0.070	0.279	0.076	0.574
Indirect	0.230	-	-	-
Total	0.160	0.279	0.076	0.574

Conclusion from the above calculation: Goodness of Fit (GoF) = $\sqrt{0.879 \times 0.833} = 0.955$ or 96%.

It can be concluded that the accuracy of the overall structural equation model and measurement equation is greater than 96%.

RESULTS AND DISCUSSION

The findings and influencing factors from the 'Structural Equation Modeling of Relationship Factors affecting Entrepreneurial Microfinance in Phuket, Thailand' revealed that:

- Organizational factors influencing variables consisted of strategies, policies and credit terms which can either strengthen or weaken the entity so they must seek opportunities and avoid obstacles that may occur (TPI, 2005). As a result, both policy and strategy related to loans are different from general lending institutions (Hadisumarto and Ismail, 2010), as well as the type of business lenders, the nature of the lender, the type of use which includes other factors and conditions such as the size of the credit limit, interest rate and payment rate. As an example, a loan or group of loans without collateral or sizelenders to the bank determines the different conditions of the banks. As a result of the policy, plans and strategies of organizations need to analyze the factors within the organization to find the strengths or weaknesses of the organization that is able to seek business opportunities and avoid obstacles that may occur (TPI, 2005)

- Responsibility consists of the development of social responsibility and commitment to the community which is consistent with the research by Wongprasert (2009) which noted that a measure of the success of the organization, is not only the earnings but it must be responsive to the expectations of society, or in other words, have 'social responsibility'. It is a factor that can determine the survival and advancement of the business to sustainable growth in the future

This is consistent with the study of Hussain *et al.* (2001) who said that Grameen Bank helps gives social development opportunities to the disadvantaged and underprivileged. If any members of the group are weak and need help, a supportive social network helps cultivate good savings habits for the poor. The nature of the lending group should also help create a shared responsibility and make the funding a joint responsibility (Kiso, 2008; Wakoko, 2003).

Additionally, it was found that Membership factors don't have a direct and positive influence on support lending to households and small businesses. But it does have a positive and indirect effect through the variable Responsibility. Membership components included experience, credibility and relationships as the three factors are consecutive, because of the nature of loans to households and small businesses in such a group (Kiso, 2008).

So, the experience of the operator and the age of acquisition of the financial information that is collected for the same consideration to credit (Chiamchittrong, 2010; Nopwattanapong, 2007), because when more experienced, age of business represents a small, reliable and has good relationships with financial institutions.

Microfinance factors consisted of revenue, profits and image which is consistent with the theory of the business and the Balanced Score Card (BSC) did not measure the performance of management, particularly financial, which include gains on sales (Chiamchittrong, 2010), income (McFadzean *et al.*, 2005; Wattanakul, 2002) because revenues and net income, which is a measure of the ability to pay the debts of the business, should have a positive impact on the business opportunity to earn credit (Nopwattanapong, 2007). But the non-financial measures, such as new product development, product updates and the image of the organization is the image of the company. With mean to 3.08, the average of the highest in the 4 models (4 models include profitability, market share, growth rates of sales and brand image) (Polsaram, 1998).

CONCLUSION

The study of the 'Structural Equation Modeling of Relationship Factors affecting Entrepreneurial Microfinance in Phuket, Thailand' revealed that Organizational Factors had the greatest influence on the microfinance bank with the most important factor being various terms and lending conditions of the banks due to the differences of each institution.

This was followed by Responsibilities which included the development of social responsibility and commitment to the community. However, it was interesting to note that Knowledge Management did not influence support lending to households and small businesses. The organizations view themselves as offering assistance to people so that they can find their own way out of poverty-a "helping hand, not a hand out" (Valente, 2011), expecting their clients to repay their loans.

Support lending to households and small businesses provides opportunities for entrepreneurs who do not have access to capital. The microfinance lender can provide liquidity or capital that helps a business survive. With economies such as Thailand so dependent on small and medium sized businesses with over 1.7 million SMEs in 2002 employing nearly 5 million, it is easy to see how crucial microfinance is for the country's health and growth.

The microfinance system of Grameen Bank was a revolutionary tool to eradicate poverty of the rural people especially the women of Bangladesh. At present Grameen Bank is the largest microfinance bank in Bangladesh and probably the biggest microcredit organization in the world. It provides loans to asset-less and landless poor people whom no commercial bank will give a loan. With microcredit being the most useful and popular financial system in the world, shouldn't Phuket's island entrepreneurs and Thailand's SME's also enjoy the benefits of such an innovative and useful institutional process.

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