

SME LOAN DECISION-MAKING PROCESS: THE DECLINING ROLE OF HUMAN CAPITAL

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ABSTRACT

This study is intended to establish relationships among a borrower's attributes, the likelihood of loan approval, and the effect of lender's human capital in the SME loan-granting process. A conjoint analysis has been used as the main analytical tool. The results showed that: (1) a borrower's attributes are all positively related to the likelihood of loan approval on different levels, (2) officers place different weights on a borrower's attributes, and (3) human capital factors do not have significant roles in the SME loan-granting process.

Keywords: SME loan granting, conjoint analysis, lender's human capital, borrower's attributes, likelihood of loan approval

INTRODUCTION

In the banking industry, the loan department is the largest income source for banks. This income, in the form of loan interest and provision, makes up a significant percentage of a bank's assets (Golin, 2001). Therefore, loan quality is an important criterion in establishing the creditworthiness of a bank (Golin, 2001). It is a guarantee to ensure that the loans released will continue to 'work' to generate profit for the bank (Booth, J. R. & Booth, L. C., 2006; Rosman & Bedard, 1999).

There are many factors to be considered by a bank before a loan approval is made. If there is a single bad loan, the bank will suffer not only a financial loss, but also significant damage to its reputation (Coleshaw, 1989). These negative impacts are why, before any decisions are made on loan applications, the bank officers perform extensive analyses to screen out potential bad loans. In this decision-making process, the bank officers need to consider different attributes

related to the borrower's background and experience, the business and the conditions surrounding it (Bruns, Holland, Shepherd, & Wiklund, 2008). Attributes such as a borrower's character, business experience, reputation, possession of assets and liabilities and the current condition of the industry may affect the likelihood of loan approval.

The loan decision-making process itself is also affected by factors within the bank (Forbes, 2005). One of them is human capital (Dimov & Shepherd, 2005; Kochetkova, 2006), partly because human judgment plays an important role in loan decisions (Coleshaw, 1989). An interesting study conducted recently in Sweden, which involved 114 loan officers from various banks, suggests that loan officers' human capital influences their loan decisions (Bruns et al., 2008). The appropriate investment and usage of human capital within companies, including banks, will positively affect performance, productivity and profitability (Arthur, 1994; Daron & Pischke, 1999). Human capital could also serve as a long-term resource that leads to a better financial performance of the firm. It has a positive correlation with company financial performance (Ling & Jaw, 2006). Therefore, it is also important as a physical asset. It creates a core competitive advantage because it is difficult to be imitated by competitors (Browne, 2000; Chen & Lin, 2003). To date, there are few studies that provide clear explanations on the relationship between a borrower's attributes or a lender's human capital and the likelihood of a loan approval. This study explores the relationship between a borrower's attributes and the likelihood of a loan approval and how the human capital of loan officers affects their judgment. The loan approval is not only technical issue, as it strongly reflects the subjective factors of loan officers' judgment on loan applications. Because loan officers play the decisive role in loan approval, it is vital to know how the decision-making procedures of loan approval are made. The procedure involves a mutual interplay among the borrower's attributes and the lender's human capital that determines the likelihood of a loan approval. Understanding the interactions will help to improve the common practice of loan approval by banks.

This paper begins with a literature review on the principles of loan approval, borrower's attributes and loan officer's human capital. It continues with explanations on the methodology used and an analysis of our results and then ends with discussions, implications, research limitations and suggestions for future research.

LITERATURE BACKGROUND

Traditional 5Cs of Loan Approval

Loans are given based on the belief that the borrower can be trusted to repay the debt (Golin, 2001). In the banking industry, the loan evaluation process has been standardised for the sake of systematic evaluation. The most common practices of the Five Cs (5Cs) accommodate all of the factors mentioned above. The 5Cs consist of the following factors: a character that relates to the borrower's reputation and apparent quality, integrity, stability and willingness to repay the loan; a capacity that reflects the borrower's financial condition, future prospects, firm ability and management experience; capital, which corresponds to the borrower's assets, money contributed to support the firm's operation, and the firm's survival prospects; collateral of any form of assets pledged as a guarantee in exchange for the loan from the bank; and conditions, which relates to both the macro and micro economic conditions surrounding the firm's business operation (Golin, 2001; Riding, Haines, & Thomas, 1994; Saunders & Allen, 2002). All loan applications received by banks will undergo comprehensive and careful analyses using the 5Cs as the principle of loan decision-making (Riding et al., 1994). The 5Cs principle provides a framework of loan evaluation for loan officers. It is expected for loan officers to have a consistent perspective to reach the same conclusions over loan applications by using this principle (Bruns et al., 2008). The use of the 5Cs principle determines the evaluation of a borrower's attributes in the SME loan decision-making process. For this study, the loan will be limited to SME loans to eliminate the biases caused by different sizes of loans.

Borrower's Attributes

Because there are too many borrower's attributes to be considered in the loan decision process, the study only focuses on five attributes: relationship with the bank, firm size, value of collateral, related business experience, and share of investment. In this study, these factors will represent the 5Cs. These five factors were the ones mostly mentioned in the preliminary interviews with loan officers.

Relationship with the bank

A bank can get more information from the client's relationship with both lending and other bank services such as deposit accounts, treasury and daily transactions (Allen, Saunders, & Udell, 1991). These other forms of bank relationships can be used as references for future credit relations and creditworthiness (Berger & Udell, 1995; Elyasiani & Goldberg, 2004). According to Rajan (1992), banks that hold more information about the borrower will have more control over credit disbursement for profitable projects. By doing this, it will push the borrower to

put in more effort (Rajan, 1992). However, the more information banks have, the more accurate the analysis is that they can conduct, resulting in higher risk mitigation (Rajan, 1992).

A more comprehensive study by Bharath, Dahiya, Saunders and Srinivasan (2007) shows the benefit of building relationships with customers. Banks with relationships have a higher probability of securing future loan contracts (42%) than have non-relationship banks (3%) (Bharath et al., 2007).

Therefore, it can be concluded that having a stronger relationship with the bank lowers the loan officers' screening level, resulting in the bank's increased willingness to take more risks (Jiménez & Saurina, 2004; La Porta, Lopez-De-Silanes, & Zamarripa, 2003). Therefore, the following hypothesis is proposed:

H₁: A relationship with the bank is positively related to the likelihood of loan approval.

Value of collateral

A study by Menkhoff, Neuberger and Suwanaporn (2006) on a 560 credit dataset of Thai commercial banks shows that Thai banks use collateral to reduce credit risks. By having collateral mortgaged to the bank, they push the borrowers to exert more effort because they have their assets 'in hostage'. It also reduces the moral hazard when banks lend money out (Jiménez & Saurina, 2004).

Banks expect higher collateral from borrowers with higher risks. Having collateral as a safety net may increase the banks' willingness to take risks. According to Jiménez and Saurina (2004), collateral reduces a bank's risk exposure and provides it with incentive to be less careful and to take more risks.

Collateral can also be seen as an instrument to ensure good behaviour from the borrowers' side (La Porta et al., 2003). Borrowers are obliged to perform their business in a certain level that complies with the bank's regulation or there is a risk that they will lose the asset once the loans default. A recent case study done in Portugal by Dermine and de Carvalho (2006) also supports this argument. The study employed 10,000 short-term SME loans disbursed during the period of June 1995 to December 2000 by Banco Comercial Português (the largest private bank in Portugal). The study found a significant positive relationship between collateral and loan default recovery (Dermine & de Carvalho, 2006).

It can be concluded that the higher the value of collateral pledged to cover the loan, the more pressure for borrowers to perform according to the bank's

requirements. Consequently, it will reduce the possible moral hazard and risk for the bank. Therefore, the following hypothesis is proposed:

H₂: The value of collateral is positively related to the likelihood of loan approval.

Firm size

Firm size is related to the business scale and the business scope. Both represent the organisational capital that offers survival benefits (Bercovitz & Mitchell, 2007). A study by Mitchell (1994) proved that larger firms and businesses tend to survive longer than smaller companies. Size, which is related to sales levels, directly affects the profitability and the sustainability of the business (Bercovitz & Mitchell, 2007; Silverman, Nickerson, & Freeman, 1997).

In practice, banks give different treatment based on the size of the companies. Smaller companies face relatively more difficulties to acquire a loan compared to their larger counterparts for reasons such as a less-comprehensive track record, limited performance portfolio, or low asset possession (Harhoff & Körting, 1998). Hence, there is higher likelihood for smaller companies to be rejected when they are applying for a loan. Larger firms have a higher sustainability and are more likely to survive in the business, resulting in a lower risk for the bank. In addition, they also have more bargaining power. Therefore, it is easier for them to obtain loan approval.

H₃: Firm size is positively related to the likelihood of loan approval.

Related business experience

Knowledge is cumulative (Arthur, 1989). From their accumulated knowledge and experience, entrepreneurs gain a self-reinforcing capacity (Minniti & Bygrave, 2001). This industry-specific know-how contributes to both business survival and growth (Cooper, Gimeno-Gascon, & Woo, 1994).

Entrepreneurs make their decisions based on specific knowledge about the market (related to technical aspects, products or industry) and general knowledge about business (how to be entrepreneurial). Both of them are accumulated through experience, learning-by-doing or direct observation (Minniti & Bygrave, 2001). Either way, they increase their capabilities and form routines. These routines of problem solving are patterns constructed from experience; the successful solutions of problems accumulated to particular problems happened in the past (Nelson & Winter, 1982).

In the case of a default loan, the more experience gained, as reflected in the increasing age of the firm, the higher the probability of the firm recovering from the default (Dermine & de Carvalho, 2006). A more experienced firm will be more able to revive from a default status. Therefore, with the skills obtained over time, these firms will have a greater chance of sustaining and achieving business success. Thus, when they apply for a loan from the bank, it will create a more favourable condition for acceptance by the bank. Therefore, the following hypothesis is proposed:

H₄: Related business experience is positively related to the likelihood of loan approval.

Share of investment

Share of investment relates to how much capital is invested by the owner towards the operation of the firm. Financial capital is an important source of protection for businesses against random shocks and makes it possible to develop business strategies. It also contributes to both business survival and growth (Cooper et al., 1994). The more capital is injected to the firms, the more able they are to face business challenges and the higher possibility there is for the firms to grow.

Financial capital has a high influence on a firm's survival (Bates, 1990). Insufficient financial resources lead to business failure (Chandler & Hanks, 1998). An owner's share of investment is one of the major considerations in loan assessment because it affects the ratio analyses upon which the loan decisions are based (Vaughn, 1997). If the owner invests more capital into the firm's operation, she will share more business risk with the lender, leaving banks with relatively lower risk.

H₅: The owner's share of investment is positively related to the likelihood of loan approval.

Lender's Human Capital

Human capital is the knowledge, skills, competencies, abilities, attitude, talents and experience used by an individual to provide value to a firm, contribute to achieve the firm's goals, and support the firm's success (Becker, 1975; Davenport, 1999; Huang, Roy, Ahmed, Heng, & Lim, 2002; Van Buren, 1999). Human capital takes an important role in various organisational activities such as decision making, strategic planning, product development, forecasting and marketing (Van Buren, 1999). If it is well-measured, it can be used to verify current performance levels, to check how it has improved or drawn back and to understand whether any activities or initiatives have affected the company's

performance. Additionally, all of this information can be used to test and review strategies and can be employed as a basis for decision making (Marr, 2008).

Previous studies have shown that human capital can affect the decision-making process. There have been studies in various fields that point out the differences between decisions taken by the experienced and inexperienced, from chess players to auditors (Chase & Simon, 1973; Choo & Trotman, 1991). The same concept applies to new ventures (Chandler & Hanks, 1998) and multinational enterprises (Carpenter, Sanders, & Gregersen, 2001). A study by Dimov and Shepherd (2005) found that there is a positive relationship between the venture capitalists' human capital and the performance of portfolio firms.

If applied in a bank loan department setting, human capital can be defined as the knowledge, skills and experience possessed by loan officers to evaluate and process loan applications. These sets of competencies and experience can be operationalised by the loan officers' education backgrounds, their experience working in banking industry, their experience related to lending activities, and most specifically, their recent exposure to SME loan-application processing. Those four human capital attributes reflect the loan officers' accumulated experience on the SME loan evaluation procedure and their competency to perform the job. Loan officers with a higher level of human capital would provide better performance to the bank by giving a more accurate analysis on the repayment intention and the capacity of potential borrowers to benefit the bank's interest (Dimov & Shepherd, 2005). Loan officers with a higher level of human capital will be more likely to use different approaches and effective ways to better define the risks of the applicants in the decision process. They will have the knowledge, experience and skills needed to give more accurate assessment of the business risk; at the same time, they will take into account all aspects of the customers: collateral, capacity, character, capital and conditions (Bruns et al., 2008).

Even though there have been many attempts to make the loan decision-making process uniform across loan officers, the human capital factors that are carried by each loan officer have retained their influential place in the decision-making process, causing decisions over loan applications to vary depending on the loan officer's experience and knowledge (Andersson, 2001). Different knowledge, familiarity, and self-efficacy related to different levels of human capital influence the perception of risk, give different judgment, and affect the determination of a potentially successful loan project completion through the bank's loan application processing tools (Bruns et al., 2008). Therefore, the next hypotheses are proposed to measure how human capital can affect the loan decision making process.

H₆: A loan officer's human capital positively affects the relationship between borrower's attributes and the likelihood of loan approval.

To operationalise the loan officers' human capital, this study has adapted four human capital factors that have been used in the previous study by Bruns et al. (2008).

Education

Education yields broad-based skills that can be applied to a variety of responsibilities and is typically used as a benchmark for general human capital (Gimeno, Folta, Cooper, & Woo, 1997). Loan officers with higher level of education are considered to have broader knowledge, information processing and problem-solving skills to make more effective and faster decisions as well as a larger learning capacity (Cohen, J. & Cohen, P., 1983; Forbes, 2005).

Banking experience

Banking experience increases the general human capital and provides an opportunity to develop more specific knowledge and skills specific to the banking industry than education provides (Bruns et al., 2008). Bank training and experience increase specific human capital (Gimeno et al., 1997). Even if it is not considered as formal training, on-the-job training in a bank gives a better understanding of the products, processes and services available in the bank. Formal training in class, on-the-job training, discovery, and experience provide bankers with tacit knowledge on how to perform the assigned job more effectively (Berman, Down, & Hill, 2002).

Lending experience

Lending experience is defined as specific human capital that can be measured by the expertise gained from experiences related to lending activities (Bruns et al., 2008). The loan officer's expertise and subjective judgment are the key factors in loan decision making (Saunders & Allen, 2002). The more lending experience the loan officer has obtained, the higher her self-efficacy will be (Wood & Bandura, 1989). Loan officers with greater lending experience will have a higher self-efficacy, different viewpoints, and reach different solutions regarding loan applications compared to those with less experience (Gavetti & Levinthal, 2000). In other words, experts are typically efficient in their decision making by focusing on the significant attributes that most greatly affect the outcomes of their decisions (Chase & Simon, 1973; Choo & Trotman, 1991).

Recent exposure to SME loans

Recent exposure to SME loans gives more specific tacit knowledge related to small business loans (Bruns et al., 2008). Loan officers could draw on personal experiences from similar SME loans granted in the past (Inderst & Mueller, 2008). Frequent exposure to SME lending increases familiarity and thus reduces risk perception (Lipshitz & Strauss, 1997). Another study by Hitt, Bierman, Shimizu and Kochhar (2001) on service firms showed that human capital has both direct and moderating effects on the firms' performance.

METHODOLOGY

Bank information is considered a private instrument and is highly confidential, making it difficult to obtain loan data directly from the bank database (Dermine & de Carvalho, 2006). The study was conducted using a metric conjoint experiment by collecting first-hand information from respondents. Respondents were given a series of pre-specified scenarios with different combinations of five attributes (two levels: High and Low) to evaluate and approve (Hair, Anderson, Tatham, & Black, 1998). Because employing full scenarios of $2 \times 2 \times 2 \times 2 \times 2$ (the full combination of all levels of all attributes) would overburden the respondents, a fractional factorial design was used, producing a minimal eight scenarios with two hold-out cases.

A conjoint analysis is suitable for analysing the decision-making process (Hair et al., 1998). The result will separately show how each borrower's attribute influences the loan decision-making process not by indicating each attribute individually but by presenting the attributes altogether to be evaluated as a bundle. Compared to other analyses, the use of a conjoint experiment is closer to the real practice of the SME loan evaluation process where all attributes of an applicant are evaluated together rather than partially. This research method has been used in many different studies in other fields (Green & Srinivasan, 1978; Green & Wind, 1975; Greening & Turban, 2000). The benefit of a conjoint analysis is its low demand on respondents (Hair et al., 1998). They will be asked for only one response for each scenario given; this single response will illustrate the respondent's judgment for all of the attributes mentioned in the scenario.

Figure 1 illustrates the conceptual model of the study. There are two major constructs involved in loan approval, the lender's human capital and the borrower's attribute. Four factors in the lender's human capital act as the moderating factors in the relationship between the borrower's attributes and the possibility of loan approval. The borrower's attributes comprise five different factors that are utilised to build different cases.

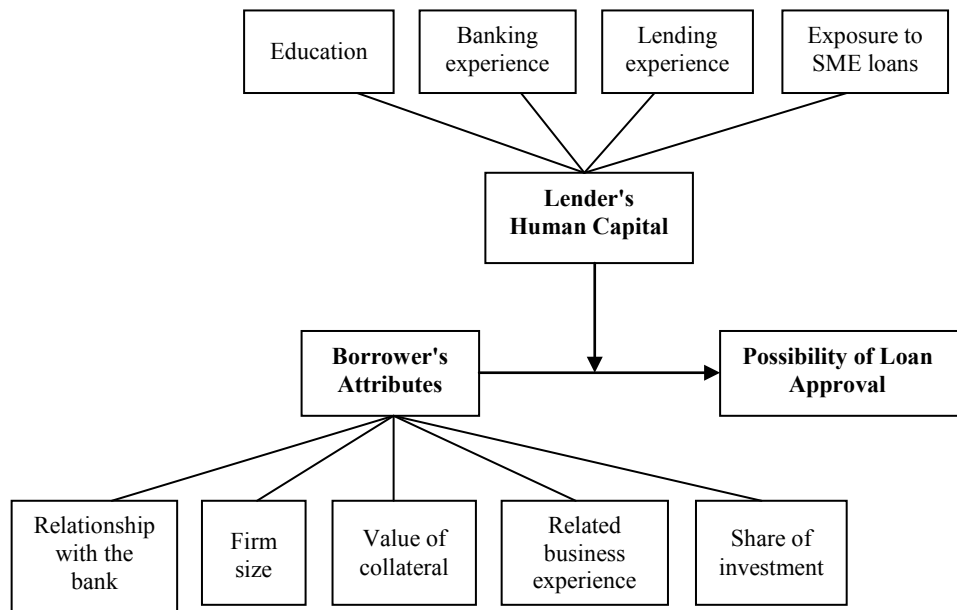


Figure 1. Conceptual Model

There were 10 scenarios of hypothetical companies applying for SME loans in the questionnaire. Each scenario covered all five borrowers' attributes. All respondents were loan officers in Indonesian banks. To eliminate misinterpretation, all questionnaire items were translated into the Indonesian language. The following paragraph shows one of the scenarios given to the respondents to evaluate:

"Company A is applying for a loan to expand its business. It is a large company; but it has no relationship to or account with your bank. They have solid experience, knowledge, and skills in their business and have been working for more than 15 years in this industry. For this expansion project, the owners only finance 10% of the needed capital. The value of the collateral (after taxation) covers 95% of the amount of loan needed.

How would you rate the probability that you would support this credit application?"

Highly unlikely▶ Very likely

1	2	3	4	5	6	7

RESULTS

In total, 350 questionnaires were distributed to officers who were visited by the researcher at their branches. Of the 350 questionnaires distributed, 255 were directly collected on the spot, 36 were sent later by email, and 59 were not returned. There were 291 questionnaires collected from 18 offices. The demographic profile of the respondents is illustrated in Table 1.

Table 1
Result of descriptive analysis

No.	Category	N	%	Mean	SD
1.	Age				
	20–30	74	25.40	1.89	0.62
	31–40	176	60.50		
	41–50	41	14.10		
2.	Gender			N/A	N/A
	Male	138	47.40		
	Female	153	52.60		
3.	Department			N/A	N/A
	Risk	103	35.40		
	Marketing	188	64.60		
4.	Education			2.88	0.82
	Up to high school	24	8.20		
	College/academy	46	15.80		
	Bachelor	162	55.70		
	Master degree & more	59	20.30		
5.	Bank Experience			2.26	1.02
	< 5 years	91	31.30		
	6–10 years	65	22.30		
	11–15 years	104	35.70		
	> 15 years	31	10.70		
6.	Credit Experience			2.35	1.11
	< 5 years	90	30.90		
	6–10 years	65	22.30		
	11–15 years	81	27.80		
	> 15 years	55	18.90		
7.	SME Experience			3.30	1.41
	none	44	15.10		
	1–10	50	17.20		
	11–20	46	15.80		
	21–30	76	26.10		
	> 30	75	25.80		

Most respondents were 31–40 years of age, had bachelor degrees, and had been working in banking industry for 11–15 years. On average, they had about 6–10 years of credit experience with an exposure of 21–30 SME applications per month.

One hundred thirty-eight of the loan officers were male (47.40%), and 153 were female (52.60%). The majority of them worked for the marketing department (64.40%); for example, as account officers, supervisors or decision makers in branch or area levels on the business side. The rest (35.40%) worked for the risk department as credit analysts, supervisors, and decision makers from the risk side. This composition represents a company's actual setting, where more personnel are assigned to the marketing department compared to the risk department.

A conjoint analysis was then applied to check the relationships between the borrower's attributes and the likelihood of loan approval. Each borrower's attribute had two levels, high and low. Based on these settings, preferences for borrower's attributes reflected by the likelihood of loan approval could be identified from the value of utility generated for each attribute. This utility value represents the degree of impact of each independent attribute toward the dependent variable of loan approval. If the value is positive, it means that the attribute has a positive relationship with loan approval, and if it is negative, then the attribute is contra-productive toward loan approval. The magnitude of the impact toward loan approval will be greater as the value of utility increases. The results are presented in Table 2.

Table 2
Result of conjoint analysis

No.	Item	Code	Utility
1	Relationship with the bank	Rel Low	-0.403
		Rel High	0.403
2	Value of collateral	Col Low	-0.616
		Col High	0.616
3	Firm size	Size Low	-0.140
		Size High	0.140
4	Related business experience	Exp Low	-0.729
		Exp High	0.729
5	Share of investment	Share Low	-0.346
		Share High	0.346

The relationship with the bank, which is represented by the number of years having an account in the bank, had a relatively moderate impact toward loan approval, with its value of utility being 0.403. For this attribute, the low level had a negative value and the high level had a positive value of utility. It can be drawn from the result that the low level of relationship with the bank causes a negative impact on the likelihood of loan approval, whereas a high level of relationship lends positive

support for loan approval. In other words, applicants with stronger relationships with the bank will have a higher likelihood of receiving loan approvals. Therefore, H_1 is supported.

The same logic applies to the second attribute, the value of collateral, with its fairly higher value of utility of 0.616 compared to the relationship with the bank. It can be understood from the result that a lower level of collateral has a negative impact on loan approval, whereas a higher level of collateral increases the likelihood of a loan approval at the same magnitude. This shows that the higher the collateral pledged, the higher the likelihood for those loan applications to be approved. Therefore, H_2 is supported.

Interestingly, firm size has the least influence over the likelihood of loan approval, with its relatively lower utility value of 0.140. Its relationship with loan approval is positive. A higher level gives a higher likelihood of approval, whereas a lower level reduces the approval rate. It can be inferred that the larger the firm, the higher the likelihood is for the loans to be approved. Therefore, this finding supports H_3 .

The borrower's related business experience was considered the most important factor in loan application assessment, with the highest utility value of 0.729. Like the other previous attributes mentioned, because the utility value is positive for a high level and negative for a low level, it can be concluded that this factor has a positive relationship with the likelihood of loan approval. This means that having more business experience, which corresponds to a high level, will result in a higher possibility of loan approval. At the same time, less business experience, which is represented by a low level, will discourage loan approval. This result is in line with H_4 .

The share of investment, or how much portion of capital that the business owner invests in the operation of the firm, was found to have a moderate impact on loan approval, with a utility value of 0.346. Consistent with the hypothesis proposed, this attribute was proven to have a positive relationship with the likelihood of loan approval. This relationship was indicated by the positive utility value for its high level and negative value for its low level. It can be inferred that the larger the share of investment is, the higher the likelihood of the loans to be approved. Therefore, H_5 is supported.

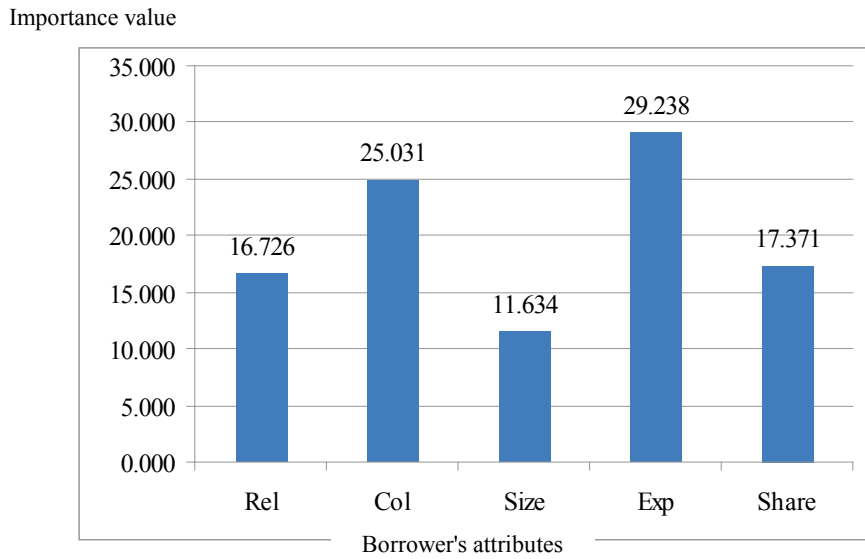


Figure 2. The value of importance among borrower's attributes

Based on the importance value provided in Figure 2, it can be concluded that loan officers have an assessment priority in the loan decision process. Among these five attributes, the ranking of the priority of the attributes are as follows: (1) related business experience, (2) value of collateral, (3) share of investment, (4) relationship with the bank, and (5) firm size. Loan officers rely heavily on the borrower's business experience when appraising SME loan applications. This attribute was given the highest priority with its dominant importance value of 29.238. Collateral still plays an important role in the assessment of a SME loan application, which is shown by its high importance value of 25.031. Share of investment, or equity contribution, placed third highest in terms of the level of importance in loan approval (17.371). The importance value of the relationship with the bank was 16.726, which is only a slight difference from the share of investment. The length of the relationship, although not the most vital factor for bank officers when making decisions, still allows bankers to collect more information about the creditworthiness of loan applicants (Elyasiani & Goldberg, 2004) or, in other words, define the character of the applicants. Even though firm size can serve as an indicator of firm survival skill and bargaining power (Harhoff & Körting, 1998), for a loan application evaluation, it was not found to be a vital factor. Among all of the other attributes, it was considered the least important, with an importance value of 11.634.

To confirm that respondents were aware of the differences between levels in each attribute, a paired sample *t*-test was employed. From the results in the following table, it can be inferred that the respondents could detect the differences among

levels in each attribute, indicated by a t_{value} greater than 1.91 and a P_{value} is lower than 0.05.

Table 3
Paired sample t-test result

No.	Item	N	Correlation	t value	SD
1	Rel High & Rel Low	291	-1.000***	-20.008***	0.344
2	Col High & Col Low	291	-1.000***	-23.600***	0.446
3	Size High & Size Low	291	-1.000***	-6.544***	0.364
4	Exp High & Exp Low	291	-1.000***	-31.762***	0.392
5	Share High & Share Low	291	-1.000***	-10.974***	0.538

An ANOVA was employed to check the influence of human capital factors on the likelihood of loan approval. The results showed that the influence of all human capital factors only existed in the judgment over the share of investment, except for the case of banking experience. Because banking experience represents the length of employment in the banking industry and not necessarily in the credit setting, the result was found to be insignificant. In a post-survey interview, E. Hoetomo, who had been working for three years in credit department, explained further, "I was administrative staff (in the loan department) for six years before I started working as a loan officer three years ago. I don't think it (the administrative work experience) helped me understand the concept of credit at all. I got the grasp after attending several basic credit trainings and doing actual work in the credit department, starting with on-the-job training for two months and then starting to do the real assessment under the close supervisions of seniors" (E. Hoetomo, personal interview, 9 February 2009).

As for the other human capital factors, it was found that loan officers with different education backgrounds weighed the share of investment differently. The higher the general education level, the less they consider the share of investment to be important in loan assessment. This can be seen from the decreasing mean value that is followed with the increase in education level. Overall, the F_{value} was 4.073**, which was moderately significant.

Ottavia et al.

Table 4
The influence of human capital factors on SME loan approval

Human capital factors	Relationship with the bank			Value of collateral			Firm size			Related business experience			Share of investment		
	Low	High	<i>F</i>	Low	High	<i>F</i>	Low	High	<i>F</i>	Low	High	<i>F</i> value	Low	High	<i>F</i> value
	Mean	Mean	value	Mean	Mean	value	Mean	Mean	value	Mean	Mean	value	Mean	Mean	value
Education															
Up to college/academy	-0.402	0.402	0.529	-0.666	0.666	0.954	-0.173	0.173	0.560	-0.802	0.802	1.657	-0.423	0.423	4.073**
Bachelor degree	-0.418	0.418		-0.585	0.585		-0.120	0.120		-0.701	0.701		-0.375	0.375	
Master degree ++	-0.364	0.364		-0.644	0.644		-0.153	0.153		-0.720	0.720		-0.174	0.174	
Banking experience															
less than 5 years	-0.431	0.431	0.571	-0.552	0.552	2.045	-0.074	0.074	1.458	-0.684	0.684	2.461	-0.431	0.431	1.202
6–10 years	-0.415	0.415		-0.723	0.723		-0.173	0.173		-0.673	0.673		-0.281	0.281	
11–15 years	-0.388	0.388		-0.595	0.595		-0.172	0.172		-0.811	0.811		-0.316	0.316	
16 years and more	-0.347	0.347		-0.653	0.653		-0.153	0.153		-0.702	0.702		-0.331	0.331	

(continued)

Table 4 (continued)

Human capital factors	Relationship with the bank			Value of collateral			Firm size			Related business experience			Share of investment		
	Low	High	<i>F</i> value	Low	High	<i>F</i> value	Low	High	<i>F</i> value	Low	High	<i>F</i> value	Low	High	<i>F</i> value
	Mean	Mean		Mean	Mean		Mean	Mean		Mean	Mean		Mean	Mean	
Lending experience															
less than 5 years	-0.457	0.457	1.321	-0.568	0.568	0.908	-0.054	0.054	2.633	-0.693	0.693	1.107	-0.576	0.576	14.473***
6–10 years	-0.406	0.406		-0.640	0.640		-0.206	0.206		-0.717	0.717		-0.375	0.375	
11–15 years	-0.378	0.378		-0.671	0.671		-0.168	0.168		-0.795	0.795		-0.289	0.289	
16 years and more	-0.350	0.350		-0.586	0.586		-0.159	0.159		-0.705	0.705		-0.018	0.018	
Exposure to SME															
none	-0.483	0.483	1.327	-0.443	0.443	2.522	-0.057	0.057	1.864	-0.631	0.631	1.692	-0.597	0.597	7.316***
1–10	-0.365	0.365		-0.650	0.650		-0.115	0.115		-0.710	0.710		-0.545	0.545	
11–20	-0.402	0.402		-0.712	0.712		-0.228	0.228		-0.766	0.766		-0.310	0.310	
21–30	-0.434	0.434		-0.658	0.658		-0.188	0.188		-0.806	0.806		-0.161	0.161	
more than 30	-0.352	0.352		-0.595	0.595		-0.102	0.102		-0.689	0.689		-0.275	0.275	

Note: * for $P_{\text{value}} \leq 0.1$
 ** for P_{value} between 0.05 and 0.01
 *** for $P_{\text{value}} \leq 0.001$

The same tendency was also found when the more specific human capital factors were analysed. Lending experience had a highly significant F_{value} of 14.473^{***}. The mean value had a descending trend as the lending experience increased. More lending experience was proved to reduce the influence of the share of investment in the loan decision making process. As for exposure to the SME loan, the F_{value} was 14.473^{***} and highly significant. The decreasing trend in mean value shows that as loan officers were more exposed to SME loans, they placed less importance on the share of investment. Ownership was not considered a vital issue in the loan granting process as the level of exposure increased.

From the results, it can be concluded that among all of the attributes, only judgment over the share of investment was affected by the loan officers' human capital factors. The loan officers' evaluation of the relationship with the bank, value of collateral, firm size and related business experience were proven to not be affected by their human capital factors, probably because of the more obvious and quantifiable values of those attributes. The relationship with the bank and related business experience were quantified by years since they first started, the value of collateral was measured by the appraisal result of the mortgage offered, and the firm size was quantified by the value of assets the firm owns. Because the values were obvious and required relatively little analysis, the influence of the lender's human capital factors was found to be insignificant. In conclusion, H_6 was partially proven, specifically in the share of investment attribute in relation to general education, lending experience, and exposure to the SME loan context. The overall results can be summarised in Table 5.

Table 5
Summary of results

No.	Attributes	Relationships
A. Borrower's attributes		
1	Relationship with the bank	Positive to the likelihood of loan approval
2	Value of collateral	Positive to the likelihood of loan approval
3	Firm size	Positive to the likelihood of loan approval
4	Related business experience	Positive to the likelihood of loan approval
5	Share of investment	Positive to the likelihood of loan approval
B. Lender's human capital		
1	Education	Neutral, only affecting the evaluation over "share of investment"
2	Banking experience	Neutral
3	Lending experience	Neutral, only affecting the evaluation over "share of investment"
4	Exposure to SME	Neutral, only affecting the evaluation over "share of investment"

CONCLUSIONS

Discussions and Implications

Our overall results show that the borrower's attributes have a positive relationship with the likelihood of a loan approval for different degrees. This research found that the most influential attribute among the five is related business experience (importance value of 29.238%), followed by value of the collateral factor, with only a slight difference (importance value of 25.031%). The share of investment and the relationship with the bank were found to be moderately influential in the loan assessment process (the importance values were 17.371% and 16.726%, respectively). The factor that was the least important was firm size. From the interviews, the loan officers indicated that firm size is secondary in the decision-making process. They were more concerned about how much profit the business could make and whether it had enough capital to repay the obligation (bank interest) and to keep the business going.

Because business experience was considered the most influential factor in SME loan evaluation, more weight should be placed on this factor when assessing SME loan applications. Companies with more business experience should have a higher possibility of having their loan application approved. As noted by S. Dharmono, who has had over 13 years of credit experience in the loan department, "the most important thing (when evaluating loan applications) is (borrower's) business experience. It reflects the capacity of applicants, how well he/she can manage the company and how well he/she can cope with the nature of the business. The longer one survives, the better one's capacity to run the business" (S. Dharmono, voice conference, 12 March 2009).

Loan officers should not make firm size the main priority when evaluating SME loan applications. Even though firm size can serve as an indicator of the firm's survival skill and bargaining power (Harhoff & Körting, 1998), for an SME loan application evaluation, it was not found to be a vital factor. Among all of the other attributes, it was considered the least important attribute. "Size is actually not what matter mosts; as long as the business can make profit, that is enough to repay the loan, why not?" (M. Suparta, personal interview, 28 January 2009). Although bankers generally prefer to give loans to larger and more established firms (Coleman, 2000), according to the findings, this is not always true. There are still other more important factors to be considered in SME loan decisions. "Of course, big (firm) is attractive, but there is more to see than just size. There are different scales in business; small, medium, and large. As long as they can make money at their own capacity and scale and (the income) comply with the bank requirements for repayment capacity, it is good enough. For me personally, firm

Ottavia et al.

size is not everything in the loan granting decision." (I. Ningsih, personal email, 3 March 2009).

These findings have to be reevaluated for whether they are in line with the bank's initial criteria in credit analyses. If it is found to contradict with the rules, regulations, and the risk weighting in credit scoring system, more credit training and standard regulation socializing need to be performed to correct the mistake. If it complies with the standard credit rules as intended by the bank, then more analytical tools have to be made to support the credit analysis process.

Human capital factors were proven to be less influential on the judgment of the borrower's attributes in the SME loan decision-making process. Because human capital factors were found to not be influential in the SME loan application process, banks can consider putting employees from the novice level (with lower human capital) in the SME loan department and employ more highly educated and experienced staff in the commercial or the corporate loan department, where more complicated evaluation procedures for loan application are required. This will bring more efficiency in the bank's loan department. The proper allocation of human capital in the correct loan department will result in a positive input to the bank's productivity and overall performance.

Research Limitations and Suggestions

Even though the experiment had been carefully designed to illustrate credit cases generally processed by loan officers, the credit scenarios of the hypothetical SME loan applicants presented in this experimental study still could not fully represent loan applications in their actual settings. Respondents were also "forced" to plainly accept and make decisions based on the simplified and limited information presented in the loan scenarios. In a real situation, loan officers can have access to more information and have the ability make a more interactive communication with their clients when making a due-diligence assessment. They can obtain, clarify, and ask more questions from the clients and other sources.

There was also the possibility of the Hawthorne effect, the occasion when individual behaviour alters when they are aware that their responses are being studied (Robbins & Judge, 2007). Loan officers might place importance and weight on certain factors only in the experimental setting, while acting otherwise in real loan assessment processes. The results of this experiment might not fully reflect the loan officers' judgment in a real loan evaluation because the respondents were fully aware that they were not evaluating real loan applications; they were only evaluating hypothetical companies as part of an experiment.

Future studies might consider employing more factors of borrower's attributes and conducting it in a larger scale such as across countries. It will be interesting to study whether these attributes retain their importance with other working capital loans of larger and more significant amounts, such as in commercial or corporate credit. Future studies can be aimed at discovering whether there are differences among these three types of business loans. Comparative studies can also be made between working capital loans and the consumption loans (housing loan, car loan and credit card).

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