Financing of Small and Medium Enterprises (SMEs) in Libya: Determinants of Accessing Bank Loan

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Abstract: The purpose of this paper is to determine factor impacting the bank loan visibility for any SME in Libya. A conceptual model was developed and the results of a survey of 364 SMEs in Libya conducted and analyzed by logistic regression. It was found the firm’s age, size and SMEs start-up with bank loan (firm –bank relationship) were significant negatively related to its difficulties in securing a bank loan. Business plans, experience and educational background of owner-manager were insignificant to the firm’s access to bank loans in Libya. The study makes an important contribution to filling a research gap, given the critical need of policy-makers to understand differentials between different types of owner-managers, firms and business strategy. It brings new insights into its field – access to finance. The key contribution of this research is the proposal and testing of firm-level hypotheses on the characteristics of firms, owners, bank and business strategies employed by firms. The findings of this study will be beneficial in tuning new government policies for SME development in Libya. However, this study is limited to the demand side only. Therefore, future research should also consider the supply side.

Key words: SME • Education and Experiences • Firm age and size • Business plan • Firm –bank relationship • Libya

INTRODUCTION

In our view, many groups of owner-managers, for a variety of reasons, still find it immensely difficult to raise the capital that they need. This paper explores some of the possible reasons –owner manager personal, firm and business strategy impact on firm ability to access external finance. The exploratory paper draws upon a survey of 364 small and medium-enterprises (SMEs), a large random stratified sample of SME in Libya.

Researchers have documented and acknowledged the fact that SMEs constitute a major proportion of the business population in most countries and that they have rapidly become vital to a country’s economic growth.

Despite the substantial influence of SMEs on the national economy of many countries, SMEs face various obstacles to their development, such as operational and financial impediments, limited expertise in marketing and human resource management, limited strategic planning and ineffective implementation of information technology, among others [1]. These impediments greatly slow down the growth of SMEs.

A firm’s access to external financing is crucial to entrepreneurship. Several empirical studies have documented a strong, positive link between a financial system’s operations and a country’s economic growth. The financial status increases the probability of performance measures, such as investment and employment [2-9]. Small businesses have various means
to secure financial assistance to boost their capital. Such assistance can be achieved through either informal (i.e., personal savings, families and friends) or formal means (i.e., banks). According to [10] small businesses are important in the economy and its growth because a major part of small firms’ external financing comes from bank loans.

Substantial evidence shows that SMEs face many growth constraints and have less access to formal sources of external finance, such as banks. These constraints explain the lack of contribution to growth of SMEs ([11-16]). A report by [17] indicates that the proportion of SMEs indicating access to finance as their most pressing problem is substantially broad, whereas only 10% of large firms consider access to finance as their most pressing issue.

Many SMEs begin their operations with inadequate financial resources because they have a difficult time raising capital from banks. [18] support this argument by stating the following: “In 2010, lending by banks and other financial institutions to small businesses had decreased by $40 billion from two years earlier.” Moreover, [17] reports that 16% of firms believe that banks are becoming less willing to provide them with loans. [13] find that commercial banks discriminate small businesses in their lending proceedings and that adding more capital requirements intensifies this discrimination, which makes obtaining loans exceptionally difficult for small businesses. [19] argue that small firms prefer to have more debt, specifically long-term debt, because of their limited access to debt financing.

In most developing countries, banks are often unable or unwilling to give term loans. They prefer to lend to large, established businesses with well-developed balance sheets and credit histories of additional assets for the collateral required in conventional bank financing [20] which obstructs the access to external formal finance of SMEs. This situation can be attributed to firms’ size, age, lack of business strategy, collateral, financial information and bank requirements as well as the owner’s or manager’s educational background and business experience.

Although 96% of enterprises in Libya are SMEs, their contributions to the gross domestic product (GDP) growth are little at only 4%. The difficulty of these enterprises in acquiring financial loans is considered one of their main problems ([21-23]).

Despite an agreement between certain researchers on the existence of financial obstacles in obtaining loans, no comprehensive studies have been conducted on the matter and no solutions on these obstacles have been recommended in Libya. [24] points out that only a few studies have been carried out on Libyan SMEs, their sizes and the obstacles they face. According to [25] (p. 172), “The 2008 to 2009 report ranked Libya as the last country (133) on financial market sophistication in a survey of 134 countries. In the same survey, Libya ranked 131 on financing through local equity markets and 83 on ease of access to loans. Venture capital availability is almost completely absent in the Libyan financial market and this is clearly reflected in Libya being ranked as 115th out of 134 countries on the availability of venture capital finance. The absence of financial markets forces the banking sectors to shoulder a major responsibility for the Libyan economic development.”

This finding clearly shows that funding problems impede the owners of SMEs in Libya in their search for external formal finance. It also raises concern on the following main question is, “what factors determine the bank loan visibility for any SME? Therefore, the main objective of this paper is to develop a model of bank loan availability.

Access to External Finance Theory and Hypothesis

Information Asymmetry Problem and SMEs Access Financing: Collateralization is a useful tool in resolving problems associated with asymmetric information in business and lending. However, the nature of the bank–firm relationship can be expected to reduce information asymmetry problems. Several studies present a negative relationship between relationship strength and credit cost ([26-28]). Collateral usage can also be affected by the nature of this relationship.

Theories suggest that borrowers can mitigate this problem by building a strong relationship with banks. A strong bank–firm relationship reduces information asymmetry on the understanding of firms of the lending constraints faced by bank managers [29]. Thus, relationships with banks have become an important area of scientific inquiry and play a distinct role in value-enhancing intermediate activities [30].

Therefore, building a relationship between bankers and owners will reduce information asymmetry. Various studies have demonstrated the benefits of building relationships with owners and banks, Firms that have
strong relationships with banks have a higher likelihood of securing future loan contracts (42%) than firms with no relationship with banks (3%) [31].

Banks are the main providers of financing to firms and have the capacity to generate higher and better information than other financial intermediaries. Therefore, bank–firm relationships can be a valuable source of private information that can reduce uncertainty in securing small business loans. [32]; [33] find that a relationship based on trust is a better strategy for improving the access of SMEs to financing. Firms that maintain longer relationships with their bankers obtain access to debt. Thus, collateral requirement is inversely related to the strength of a bank–firm relationship. [34] support this finding based on their study on relationship lending. The probability of pledging collateral slightly decreases with increasing bank–firm relationships. [36] show that bank–borrower relationships are important determinants for increasing access to financing during unpredictable aggregate shocks. [37] find that collateral requirements decrease with increasing bank–borrower relationships. Borrowers with more concentrated and long-lasting bank relationships have less stringent collateral requirements. [38] find that long-term banking relationships are positively associated with the probability of loan approvals.

Therefore, a strong bank–firm relationship will decrease the willingness of banks to take more risks, thus lowering collateral requirements [39] indicate that firms with previous relationships with banks can regain access to such banks [19] mention that “firms that use short-term debt also employ long-term debt and firms that do not use short-term debt do not use long-term debt. Thus, the main distinction between firms is the use of external financing and debt duration is a secondary factor. This distinction sets the question on bank–firm relationships. Firms that have relationships with banks are able to access both short- and long-term debt, whereas firms that do not have such a relationship are not capable of accessing any form of funds from banks.

The following hypotheses on bank–firm relationships and bank loan access is proposed on the basis of the arguments between asymmetry information and collaterals:

H1: A significant negative relationship exists between the bank loans of startups and the difficulties of obtaining a bank loan.

**Owner-Manager Educational; Experiences and SMEs Access Financing:** The owner-manager is one of the most common components of SMEs. The majority of SMEs are owned and managed by the same individuals. By difference, large firms are normally managed by a team of professionals appointed by the shareholders of the firms. Therefore, the characteristics of owner-managers such as level of education and experience affect firm access to bank loan. Thus, highly educated entrepreneurs will choose to dissolve their firms and seek lucrative employment opportunities [40]. [41] suggest that owner-manager experiences play an important role in explaining differences in external financing.

The most common approach is the examination of the financial aspects of the business as the basis of performance appraisals. For example, the educational levels and experiences of business owners are positively associated with business access to external financing.

[42] finds that financial performance has a positive effect on firm survival because of human capital. [43-45] confirm that firms with highly educated owners are efficient. Their study also explains why owner-managers who are highly educated or have more business experience have a greater probability of obtaining financial capital.

[46] Coleman (2000) examines education, years of experience and access to external finance. He finds some evidence that education is positively related to access to external bank loans. [47] they confirmed that graduates had the least difficulties in raising finance.

[41] find that entrepreneurial experience is helpful in obtaining financing from institutional investors [48] find that entrepreneurs with high levels of experience and education have easy access to financial capital. [49] show that loan costs are negatively correlated with the overall management quality of a firm. Therefore, education and experience are significant in accessing for external formal financing. Human capital theory states that the education and experience of owner-manager influence the access of firms to external financing. Thus, the study formulates the following hypotheses:

H2: A significant negative relationship exists between education level and the difficulties of owner-managers in obtaining bank loans.

H3: A significant negative relationship exists between experience and the difficulties of owner-managers in obtaining bank loans.
The Firm Size, Age and SMEs Access Financing: Firm size has received limited attention in the empirical tests of symmetry and simultaneity hypotheses because differences in size reflect differences in other variables such as age [50].

[51] cites that size theories on firm size can be classified into four approaches, namely, the conventional microeconomic approach (or the technological approach), transaction cost approach (or the institutional approach), industrial organization approach and dynamic model of size distribution approach.

The dynamic model of firm size and distribution includes stochastic, life cycle and evolutionary models. The primary source of innovation in this approach is research and development. In pursuing this activity, larger and more established firms have an advantage than smaller and newer firms. These models correlate the size of the firm to its age and growth ([52]; [51]). [52] suggest that firms enter the market as small firms and grow through learning. A small and young firm faces greater risks and turbulence than a big firm. Small firms also encounter difficulties in obtaining credit. Thus, [44] indicates that the interactions between outside/inside financing and firm size are important and should be controlled when examining such financing relationships.

Bank loans are generally favorable to big firms, thus indicating the reliance of banks in the relationship between firm size and age [53]. Banks prefer to deal with bigger and older firm rather than smaller and younger firms because small firms are at a greater risk for financial distress and young firms are more prone to failure than old firms [54]. For example, the Bank of England (2001) cites evidence on the survival rates of new businesses. Only 42% of new businesses survive after four years [55]. [56] identify the factors of poor performance and failure faced by SMEs. They find that the failure of SMEs is high within the first year only 42% of small businesses survive after four years and that the most important factor of SME failure is limited access to finance. Therefore, access to external formal financing is the most important factor for firm growth. [57] finds that firm size plays an important role in the way financial structure affects the growth process.

However, small firms, particularly when young small firms, have limited collateral and short credit histories. Thus, small find difficulty in raising funds from banks. Financial constraints in the first years of a firm have a negative and significant effect on firm longevity [58]. New and younger firms use fewer banks and other finance institutions than older firms ([43] [44] [59]). The survey of the Small Business Administration shows a positive relationship between the use of bank debt and firm size. Large and old firms have access to bank credit, which is not available to younger and smaller firms [60].

On the other hand, [54] discover that the use of long-term debt financing is negatively correlated with the age of a firm. Furthermore, an old firm will incur fewer debts. Younger firms usually lack sufficient internal funds and do not have easy access to external equity. Thus, these firms are more reliant on external debt sources.

The following hypotheses are formulated based on the above statements:

H4: A significant negative relationship exists between firm size and difficulties in obtaining bank loans.
H5: A significant negative relationship exists between firm age and difficulties in obtaining bank loans.

Business Plan and SMEs Access Financing: A business plan is an important tool for obtaining external formal financing. Business owners can provide their business plans to investors who may be willing to serve as partial owners or to various credit institutions such as commercial banks that may be willing to provide business loans. The business plan should be clear and convincing. Loan providers will not invest funds in the business if they do not believe in the plan.

Therefore, business plans play a key role in raising external financing because business plans provide investors and lenders a detailed understanding of the venture and the possibility of full recovery of any financing involved. [44] indicates that financiers cannot use the record of accomplishment of a firm as a sign of quality, thus reducing the ability to forecast the future performance of a firm. Almost any investor at present will require a business plan [59-61] find that most firms that apply for external financing cannot obtain loans because of the lack of realistic and workable business plans.

This discussion tests the influence of business plan on access to bank loans. The following hypotheses will be tested:

H6: A significant negative relationship exists between a written business plan and the difficulties of obtaining a bank loan.
The literature presents conflicting evidence about whether personal characteristics, firm and business strategy are an issue when firms seek bank finance. From 364 respondents 188 respondents have applied for a bank loan. From these, 188 respondents, 77 have been able to access loans, whereas the remaining 41 have been rejected for loans. Therefore, the loan-access model establishes the relationships among the attributes of borrowers and their firms and the likelihood of loan approval. The dependent variable is the question on whether the loan application is successful (yes = 0, no = 1). During the survey, the respondents had provided some attributes of the characteristics of SMEs owner-manager such as their level of education and experiences also size and age of the firm, businesses strategy which include business plan. Moreover, sources of financing startup, whether apply bank loan after started or not and loan application was successful or turn down.

Econometric Model of Probability Access Bank Loans:
The logistic regression model is used to investigate the influence of owner-manager characteristics, firm characteristics and business strategy on the access to bank loan probability of firms as dependent variables. The model below is used to analyze these interactions:

\[
\text{Access to bank loan} = \beta_0 + \beta_1 \text{Business plan} + \beta_2 \text{Highest Education} + \beta_3 \text{Previous business Experience} + \beta_4 \text{Firm startup financing} + \beta_5 \text{SME size} + \beta_6 \text{SME Age} + \beta_7 \text{Firm startup financing} (\text{firm–bank relationship}) + \varepsilon_i.
\]

We estimate the coefficients (Y) by using the following model: where Y is the difficulty of obtaining a bank loan and the logistic model for difficulty is coded by “1” or “0”. Thus, Y for application status is equal to \( Y = \beta_0 + \beta_1 \text{Business plan} + \beta_2 \text{Highest Education} + \beta_3 \text{Previous business Experience} + \beta_4 \text{Firm startup financing} (\text{firm–bank relationship}) + \varepsilon_i \). The independent variables represented by in equations are expressed on proxies of the conceptualized theories as shown in Table 1.

RESULTS AND DISCUSSION

This study employs logistic regression to assess the influence of the variables on loan access. Logistic regression is employed after confirming the absence of multicollinearity problem. The correlation between variables (Table 2) indicates that most of the correlations are relatively low. The highest and lowest values are 0.593 and 0.049, respectively. [62]; [45] observes that, “multicollinearity exists when independent variables are highly correlated (r = 0.6 and above). Therefore, the degree of multicollinearity is low because the correlation value is less than 0.6. The collinearity statistics test is also employed to test for multicollinearity. And that the VIF of all the independent variables is within 1.134 to 1.925. In addition, Tolerance values found between 0.519 to 0.882 which were far above the critical tolerance value of 0.1. Therefore, it can be concluded that there was no serious multicollinearity among the independent variables. Table 3 gives the results of tests hypotheses and contribution of each of predictor variables of the full model containing all predictors is statistically significant, \( x^2 = 75.752 \ p=0.000 \). Table 3 shows that three explanatory variables, namely, startup financing (X2), firm age (X5) and firm size (X6), are significantly related to loan access, whereas the other three explanatory variables, namely, business plan (X1), education level (X3) and experience (X4), are insignificantly related to loan access.

We estimate the coefficients (Y) by using the following model: where Y is the difficulty of obtaining a bank loan and the logistic model for difficulty is coded by “1” or “0”. Thus, Y for application status is equal to \( Y = \beta_0 + \beta_1 \text{Business plan} + \beta_2 \text{Highest Education} + \beta_3 \text{Previous business Experience} + \beta_4 \text{Firm startup financing} (\text{firm–bank relationship}) + \varepsilon_i \). The independent variables represented by in equations are expressed on proxies of the conceptualized theories as shown in Table 1.

**. Correlation is significant at the 0.01 level (2-tailed)

### Table 1: Independent variables measurements

<table>
<thead>
<tr>
<th>Highest Education</th>
<th>Previous business Experience</th>
<th>Written Business Plan</th>
<th>SME Size applied for bank loan (number of employees)</th>
<th>SME Size number 1-3 workers</th>
<th>SME Size number 4-10 workers</th>
<th>SME Size number 11-17 workers</th>
<th>SME Size number 18-25 workers</th>
<th>SME Size number 26-above workers</th>
<th>SME Age applies for bank loan (years)</th>
<th>SME Age 1-5 years</th>
<th>SME Age 6-10 years</th>
<th>SME Age 11-15 years</th>
<th>SME Age 16-20 years</th>
<th>SME Age 21-above years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1= university graduate, otherwise= 0</td>
<td>1= Yes, 0=otherwise</td>
<td>1= Use, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td>= 1, 0= otherwise</td>
<td></td>
</tr>
</tbody>
</table>

### Table 2: Correlation of the independent variables of the loan-access model

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Business plan</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. start-up finance sources</td>
<td>.489&quot;</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Education</td>
<td>.212&quot;</td>
<td>.074</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. experience</td>
<td>.066</td>
<td>.049</td>
<td>.063</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. firm age applied</td>
<td>.142</td>
<td>.135</td>
<td>-.154</td>
<td>.405&quot;</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>6. firm size applied</td>
<td>.454&quot;</td>
<td>.288&quot;</td>
<td>.092</td>
<td>.374&quot;</td>
<td>.593&quot;</td>
<td>1.000</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed)
Table 3: Results of the logistic Regression analysis for the determinants of loan-access

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business plan (X1)</td>
<td>-.165</td>
<td>.640</td>
<td>.067</td>
<td>.796</td>
<td>.847</td>
</tr>
<tr>
<td>Start-up finance (X2)</td>
<td>-2.314</td>
<td>.636</td>
<td>13.224</td>
<td>.000***</td>
<td>.099</td>
</tr>
<tr>
<td>Education (X3)</td>
<td>.308</td>
<td>.640</td>
<td>.231</td>
<td>.630</td>
<td>1.360</td>
</tr>
<tr>
<td>Experience (X4)</td>
<td>.080</td>
<td>.680</td>
<td>.014</td>
<td>.906</td>
<td>1.083</td>
</tr>
<tr>
<td>Firm age Apply (X5)</td>
<td>-1.431</td>
<td>.508</td>
<td>7.940</td>
<td>.005***</td>
<td>.239</td>
</tr>
<tr>
<td>Firm size apply (X6)</td>
<td>-1.481</td>
<td>.474</td>
<td>9.770</td>
<td>.002***</td>
<td>.228</td>
</tr>
<tr>
<td>Constant</td>
<td>4.998</td>
<td>1.081</td>
<td>21.363</td>
<td>.000</td>
<td>148.158</td>
</tr>
</tbody>
</table>

Number of Observation: 118
Chi-square statistic: 75.752 at significance level 0.000
p-value: 0.0001
Cox& Snell R²: 0.474
Nagelkerke R: 0.653
-2 LogLikelihood: 76.670
 Hosmer and Lemeshow chi-square: 5.173 at significance level 0.739
Predicted Correct at Block 0: 65.3%
Predicted Correct at Block 1: 83.1%
-2Log likelihood at Block 0: 152.423
-2Log likelihood at Block 1: 76.670
(-2Log Block 0) - (-2Log block 1) = Chi-square = 75.752

**Significant at the level 5%**
***Significant at the level 1%***

X1 Business Plan: [60] mention that almost any investor today will require a firm to present a business plan. Therefore, business planning is significantly associated with debt access. [45] finds that the credit status variable has a strong positive effect on access to formal financing. [59]: [61] find that most firms cannot access loans because of the lack of realistic and workable business plans. Theoretically, a written business plan positively affects the capacity of SMEs to obtain loans. The result in Table 2 shows that the business plan (X1) variable is statistically insignificant (P > 0.05). The significant influence of written business plans on loan access is not observable in Libya. This result suggests that banks in Libya rely more on collateral requirements than business plans in providing loans. [25] indicates that Libyan banks often require collateral that is approximately 125% of the loan. Another possibility is that Libyan culture and personal relationship encourage SMEs to access bank loans. [63] (p. 1) mentions that “the concept of “wasta” and “influence” is a direct consequence of these personal relationships, together with family ties, trust and honor. In Libya, this relates to the importance of having personal contacts in influential places so rules can be bent or things done quickly. As a system based on the reciprocation of favors, “wasta” permeates all aspects of Libyan society and is particularly prominent in business settings.” Another explanation is the high level of corruption in Libyan banks, thus easing access to bank loans. [5] observe that micro and small firms have less access to formal financing and pay more bribes than larger firms. Libyan banks do not want to rely on the business plans of SMEs in providing loans because of the weak preparation of such business plans. [23] notes the superficial choice for beneficiaries in lending programs because of the weak preparation of business plans. Thus, a business plan is irrelevant in accessing bank loans in Libya. Therefore, the hypothesis is not supported.

X2 SME Startup Financing (Firm–Bank Relationship): Successful startup SMEs that use bank loans are perceived to have a good rapport with their banks. This relationship can lead to a number of benefits such as greater availability of credit. Therefore, enhancing firm–bank relationship is a better strategy to improve the access of SMEs to external financing [64]. Based on this assumption, firm startup bank loans and difficulty to obtain bank loans have negative influences. In the current study, the beta value for firm startup financing is -2.314 and is significant at 0.01 (1%) level. This finding is in line with the result of [38], who find that banking relationship is positively related to the probability of loan approval. Therefore, the hypothesis is supported.

X3 Education and X4 Experience: Owner-managers with higher education levels and experiences have higher probabilities of operating a successful firm and initiating growth than owner-managers with lower education levels and experiences. [48] find that entrepreneurs with high levels of experience and education have easy access to financial capital. [41] indicate that owner experience is helpful in obtaining institutional financing. According to this hypothesis, owner-manager education and experience levels have negative significant influences on the difficulty to obtain a bank loan. In the current study, the education levels and experiences of owner-managers have no bearing on the difficulty level encountered by SMEs in accessing bank loans. The beta values for education level and experience are 0.308 and 0.800, respectively and are insignificant at 0.630 and 0.906, respectively. Thus, the two hypotheses are not supported. These findings are consistent with the findings of [65] and [44].

X5 Firm Age: Financial constraints in the first years are found to have negative and significant effects on firm age [58]. Theoretically, younger small businesses face difficulties in accessing loans because of insufficient
assets to use as collateral. Therefore, raising external funding from banks is difficult [13] finds that applications for loans from young firms are more likely to be rejected than applications from medium-sized firms. According to these assumptions, the relationship of firm age and difficulty in obtaining bank loans is negative. In this study, the beta value for firm age is -1.431 and is significant at 0.01 (1%) level. Thus, the hypothesis is supported.

**X6 Firm Size:** The size of a firm is a strong predictor of business performance [66]. A positive relationship is found between the use of bank debt and firm size. Large and old firms have access to bank credit compared with younger and smaller firms [60]. The size of a firm is inversely related to the difficulty in raising finance and banking relationship depends on firm size. Banks prefer to deal with larger and older firms than with smaller and younger firms [54]. [38] find that the size of a firm is positively related to loan approval probability. Companies with fewer employees report a significantly low loan approval probability. According to these assumptions, the relationship of firm size and difficulty to obtain bank loan is negative. In the current study, the beta value of firm size is -1.481 and is statistically significant at 0.01(1%) level (Table 3). Therefore, enough evidence exists to support the hypothesis.

**CONCLUSION**

This study examines the determinants of access to bank loan. Thus, this study aims to establish major factors in obtaining subsequent bank loans, Logistic regression model, namely, loan-access model, is generated to explain the determinants of access to bank loan of SMEs in Libya. The reject of bank loan applications is used as the dependent variable. The results show that firm characteristics, such as business size (a larger firm has a higher probability of successful loan application), business age (an older firm has a higher probability of successful loan application) and business plan (a firm with a business plan) have insignificant effects in loan-application status. However, firm startup financing sources, such as bank loan or informal financing (a startup with a bank loan has a higher probability of successful loan application) are negatively associated with difficulties in loan access. Owner-manager characteristics of, such as education level and experience, are unlikely to increase the probability of successful loan applications.

In summary, Larger and older SMEs that started with bank loans are more likely to have successful bank loan applications than SMEs started with informal financing, smaller and younger SMEs.

**REFERENCES**


